

# The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1745.—Vol. XXXIX.

LONDON, SATURDAY, JANUARY 30, 1869.

{STAMPED...SIXPENCE,  
{UNSTAMPED...FIVEPENCE

**MR. JAMES CROFTS, STOCK AND SHAREBROKER,**  
No. 1, FINCH LANE, CORNHILL.

HOLDERS of mining shares difficult of sale in the open market may find purchasers for the same through Mr. CROFTS' agency. Also parties requiring advice how to act in the disposal or abandonment of doubtful mining stocks may profitably avail of Mr. CROFTS' long experience on the market in all cases of doubt or difficulty, legal or otherwise.

Mr. CROFTS has a few remaining shares for sale in a TIN MINE, which will pay upwards of EIGHTY PER CENT. The shares are 7s. 6d. each. Applications addressed to Mr. CROFTS will be answered with full particulars.

**MR. JOHN BUMPUS, 44, THREADNEEDLE STREET,**

has FOR SALE the following shares, free of commission:—  
50 Anglo-Brazil, 13s. 3d. 50 Royalton, 27s. 6d.  
50 Australian United (Gold), 23s. 6d. 50 Sao Vicente, 17s. 6d.  
20 Brynpostig, 28s. 9d. 15 Frank Mills, £3 1/2 50 Snaefell, 14s.  
25 Chiverton, £2 3s. 9d. 10 Great Laxey, £1 1/2 50 St. John del Rey, £1 1/2  
50 Carn Camborne, 12s. 6 10 Great Wh. Vor, £1 1/2 100 Taquaril, 14s. 6d.  
50 Chontales, £1 1/2 10 Marke Valley, £2 6 50 West Godolphin, 23s. 6  
50 Don Pedro, £4 5s. 6d. 25 Mining Assoc., 12s. 6d. 2 Wt. Chiverton, £3 1/2  
50 East Carn Brea, 8s. 10 New Lovell, £2 8s. 10 Wheal Uny, £3 18s. 3d  
10 East Lovell, £2 1/2 50 No. Treskerby, 18s. 6d 10 W. Kitty (St. Agnes),  
10 East Caradon, £3 7s. 6 50 Pestarena, £1 7s. 6d. 5 W. Mary Ann, £2 1/2  
20 E. Grenville, £3 3 9d 30 Prince of Wales, 23s. 3 2 Wt. Seton, £7 1/2

**MR. WILLIAM WARD,**  
STOCK AND SHAREDEALER,  
No. 29, THREADNEEDLE STREET, LONDON, E.C.

**MESSRS. WILSON, WARD, AND CO.,**  
STOCK AND SHAREDEALERS,  
16, UNION COURT, OLD BROAD STREET, LONDON, E.C.

**MR. THOMAS SPARGO, STOCK AND SHAREDEALER,**  
224 & 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

**JOHN RISLEY, (SWORN) STOCK AND SHAREBROKER,**  
48, THREADNEEDLE STREET, LONDON, E.C.  
Bankers: London and Westminster, Lothbury.

OFFICE OF THE  
**WHEAL MARY FLORENCE MINING COMPANY (LIMITED),**  
74, OLD BROAD STREET, LONDON.

**MR. JAMES HUME, STOCK AND SHAREDEALER,**  
74, OLD BROAD STREET, LONDON, E.C.

WHEAL MARY FLORENCE.—Particulars of this mine may be had on application to Mr. HUME.  
Mr. HUME'S "Circular" for January is now ready. Price 6d. free by post.  
Buying and selling orders executed at the closest margins.  
Bankers: The London Joint-Stock Bank.

**MR. J. H. COCK, STOCK AND MINING SHAREDEALER,**  
74, OLD BROAD STREET, LONDON, E.C.

Fifteen years' experience in Cornwall and London.  
BUYER of Boscuan shares for cash. Sellers please state lowest price. Also BUSINESS in every other description of mining and other stocks at close market prices.

**MR. E. J. BARTLETT, STOCK AND SHAREDEALER,**  
No. 30, GREAT ST. HELEN'S, LONDON, E.C. has SPECIAL BUSINESS in West Godolphin, Summer Hill, North Pool, South Condurrow, South Merilyn, New Lovell, Great South Chiverton, South Darren, and North Levant.

Holders of Stock difficult of sale in the open market may find purchasers on application to the above.  
\* Mr. E. J. BARTLETT recommends the immediate purchase of West Godolphin and South Merilyn shares.

**MR. JOHN MOSS, STOCK AND SHAREDEALER,**  
ST. MICHAEL'S CHAMBERS, 42, CORNHILL, E.C.

Business as BUYER or SELLER in Chontales, Don Pedro, General Brazilian, and Taquaril Gold shares.  
NORTH TRESKERBY.—This mine is looking better than at any time during the past two years, and is likely soon to be in the Dividend List again; closing price, 22s. 6d. to 23s.  
Bankers: City Bank, Finch-lane, E.C.

**MESSRS. WARD AND JACKMAN,**  
STOCK AND SHAREDEALERS,  
No. 1, CUSHION COURT, OLD BROAD STREET, CITY, E.C.

Messrs. WARD and JACKMAN have daily information from the principal seats of mining, which is at the service of those who may honour them with their confidence.  
Jan. 29. Bankers: London and Westminster, Lothbury.

**MR. C. A. POWELL, STOCK AND SHAREDEALER,**  
No. 1, PINNER'S COURT, OLD BROAD STREET, LONDON, E.C.

Business as BUYER or SELLER of shares in all the Leading Dividend and Progressive Mines.  
Jan. 29. FOR SALE—50 Royalton, at 27s. 6d.  
Bankers: City Bank, Finch-lane.

**WALTER TREGELLAS, 122, BISHOPSGATE STREET**  
WITHIN, LONDON, E.C. DEALS in all STOCKS AND SHARES,  
either for cash or for the fortnightly settlement.

SPECIAL BUSINESS in the following Gold Mines:—  
Don Pedro. Port Phillip. Rossa Grande.  
Taquaril. General Brazilian. Anglo-Brazilian.  
Bankers: The Alliance Bank.

**MATTHEW GREENE, STOCK AND SHAREDEALER,**  
1, ST. MICHAEL'S HOUSE, CORNHILL, LONDON, E.C.

TAMAR VALLEY SILVER-LEAD.—I still recommend the purchase of these shares. The mine is progressing fast towards a highly remunerative state. See reports in this day's Journal.

**BARTLETT AND CHAPMAN'S "INVESTMENT CIRCULAR**  
AND FINANCIAL RECORD"  
(Published on the first Wednesday in each month)

Comprises—A Comprehensive Review of the Stock, Share, and Money Markets; an Enumeration and Comparison of the Whole Circle of Investments; and Valuable Suggestions for Purchase or Sale.  
\* Sent free on application.  
No. 2, Bucklersbury, London, E.C.

**MR. WILLIAM MARLBOROUGH, 1, GREAT ST. HELEN'S,**  
BISHOPSGATE STREET, LONDON, E.C. (Established 14 years), has

FOR SALE the following SHARES, at net prices:—  
50 Brynpostig, 27s. 6d. 50 Great Laxey, £20. 50 So. Condurrow, 17s. 3d  
50 Chontales, £1 2s. 6d. 50 Great No. Laxey, 25s. 50 Taquaril, 6s. 6d. pm.  
15 Chiverton, £1 1/2 20 Great So. Tolgus, 8s. 9d. 50 Tincroft, £16 18s. 9d.  
5 Cook's Kitchen, £12 8 9 20 Great Vor, £10 18s. 9d. 20 West Bassett, 23s.  
5 Cwm Darren. 20 Gt. Retallack, £2 1/2 50 West Godolphin, 20s.  
10 Chiverton Moor, £4 1/2 20 Hingston Down, 19s. 20 Wt. Chiv., £3 1/2  
50 Drake Walls, 17s. 9d. 1 Herodasfoot. 1 West Seton, £2 1/2  
10 East Caradon, £9 13 9 5 Marke Valley, £9 5s. 2 W. Mary Ann, £22.  
20 E. Grenville, £3 6s. 9 20 New Lovell, £3 6s. 3d. 50 W. Grenville, 31s. 6d  
5 East Lovell, £3 9s. 9d. 10 North Rosekar, £4. 10 Wheal Uny, £3 1/2  
10 Frank Mills, £3 16s. 20 No. Treskerby, 19s. 2 West Frances, £39.  
20 Gonamena, £1 2s. 6d. 50 Prince of Wales, 21s. 9 1 Wheal Seton, £24.

**MR. GEORGE BUDGE, STOCK AND SHAREDEALER,**  
No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established 20 years), is a SELLER at net prices of:—

10 Maes-y-Safn, £22; 100 Maudlin, 36s. 9d.; 35 Rose and Chiverton United; 10 Cwm Darren; 10 New Lovell, £2 1/2; 10 Linares, £2 14s. 9d.; 5 West Chiverton; 10 Cwm Darren; 10 New Lovell, £2 1/2; 10 East Grenville, £3 1/2; 25 Penhalls; 25 Tamar Valley; 30 South Condurrow, 17s.; 2 Wheal Seton, £24; 100 Lovell Consols.  
And has SPECIAL BUSINESS as a BUYER or SELLER of Penhalls, South Caradon, West Chiverton, North Jane, Great South Chiverton, Colquhoun and Callington, and East New Wheal Lovell.

Mr. BUDGE recommends the purchase of Penhalls. He called the attention of the public to this mine some time since, as well as other progressive mines now in the Dividend List. Not having any immediate personal interest in the success of any mine, he is enabled to give unbiased advice as to the purchase of shares most desirable for investment.

**ANNUAL REVIEW OF CORNISH AND DEVON MINES**  
FOR 1868.

PETER WATSON'S "WEEKLY MINING CIRCULAR AND SHARE LIST—SYNOPSIS OF CORNISH AND DEVON MINES," of Friday, Jan. 29, No. 517, Vol. XI, price 6d. each copy, forwarded on application, contains the CONTINUATION of his ANNUAL REVIEW, with ADVICE as to PURCHASE or SALE OF SHARES.

**CORNISH AND FOREIGN MINES—**  
TO SHAREHOLDERS AND OTHERS.

PETER WATSON'S "WEEKLY MINING CIRCULAR AND SHARE LIST—SYNOPSIS OF CORNISH AND DEVON MINES," of Friday, Jan. 29, No. 517, Vol. XI, price 6d. each copy, forwarded on application, contains information on the following mines:—

West Caradon.	Trumpet Consols.
Chiverton.	East Wheal Lovell.
Wheal Trelawny.	North Crofty.
Wheal Buller.	East Wheal Seton.
North Downs.	Prince of Wales.
Wheal Grenville.	North Levant.
East Wheal Grenville.	Wheal Owles.
Great Retallack.	Spearne Moor.
Redmoor.	Levant.
West Chiverton.	Chontales.
West Great Work.	
South Great Work.	

With a Tabular Statement of Mining Dividends paid during the year 1868.

**INVESTMENT OR SPECULATION.—A SELECTED LIST OF**  
RAILWAYS, BANKS, MINES, COLONIAL SECURITIES, FOREIGN  
GOVERNMENT BONDS, &c., forwarded to bona fide investors on application,  
in addition to the high rate of interest many of the above are paying, there is  
now every probability of a great rise in market value.

**PETER WATSON, STOCK AND SHAREDEALER,**  
79, OLD BROAD STREET, LONDON  
(three doors only from Hercules-passage, entrance to the Stock Exchange).

Twenty-four years' experience.  
(Two in Cornwall and Twenty-two in London.)  
Bankers: The Alliance Bank, and the Union Bank of London.  
References given and required (when necessary) in all the principal towns of  
the United Kingdom.

**THE LONDON DAILY RECORD—STOCK AND SHARE**  
LIST—STOCK EXCHANGE SECURITIES. Published every evening at  
5 o'clock. It contains the latest prices of railways, banks, mines, foreign stocks  
and bonds, financial, insurance, and miscellaneous shares, remarks on the daily  
rise and fall in prices, with advice as to purchase and sales. Annual subscription,  
£1 1s.; by post, £2 6s.; monthly subscription—by post, 4s.; single copy, 1d.;  
by post, 2d.

PETER WATSON, Stock and Sharedealer, 79, Old Broad-street, London.

**MR. EDWARD COOKE,**  
STOCK AND MINING SHAREDEALER, 79, OLD BROAD STREET

Mr. COOKE still advises the purchase of Great Western, Great Wheal Vor,  
East New Lovell, New Wheal Lovell, Prince of Wales, and Frank Mills shares,  
feeling confident of a considerable advance in price.

BUYER of Frank Mills, New Wheal Lovell, and West Great Work shares, at  
market prices.  
Price-list sent free on application.  
Bankers: Alliance Bank.

**MR. W. H. CUELLO,**  
No. 42, CORNHILL, LONDON, E.C.

SPECIAL BUSINESS—  
East Caradon. Pedra-an-drea. Prince of Wales.  
West Chiverton. West Frances. Henrietta.  
West Chiverton. West Tolgus.

**MR. WILLIAM SEWARD, STOCK AND MINING SHARE**  
BROKER, 19, THROGMORTON STREET, LONDON, E.C.

Every description of shares BOUGHT and SOLD at the best market prices.  
Money advanced to any extent on good mining shares.  
Office hours Ten to Four. Bankers: Bank of England.

**MR. T. ROSEWARNE, 81, OLD BROAD STREET,**  
LONDON, E.C.

T. R. has BUSINESS in the following shares, at close market prices:—  
Bedford United. Frontino and Bolivia. Tincroft.  
Chiverton. Great Wheal Vor. West Caradon.  
Chiverton Moor. Marke Valley. West Chiverton.  
Cook's Kitchen. North Treskerby. Wheal Grenville.  
East Caradon. New Lovell. Wheal Seton.  
East Carn Brea. Prince of Wales. Wheal Uny.  
East Grenville. Pedra-an-drea. Kitty (St. Agnes).  
South Crofty.

AN OFFER WANTED for the following shares:—30 West Drake Walls, 20  
North Chiverton, 25 Brynpostig, 100 Redmoor.

Parties interested in mining, and who wish to be guided right, should consult  
T. R., he not only having been a practical miner, but has been in the share  
market for thirteen years. Those who have hitherto consulted me have done  
well, and I never saw a better opportunity than the present to make money if  
properly employed. Shares can be exchanged to great advantage.  
Money advanced to any extent on good mining shares.  
Office hours Ten to Four. Bankers: Bank of England.

**MR. THOMAS THOMPSON, MINING OFFICES,**  
12, OLD JEWRY CHAMBERS, LONDON, E.C.

ROYALTON.—The steady increase in the price of tin is causing a great demand  
for shares in legitimate tin mines, and which, there can be little doubt, will be  
generally valuable. Investors, however, should be careful how they place  
money in deep and expensive mines, which can only pay profits with tin at high  
prices. They should rather seek an investment in those mines which, with ex-  
tensive reserves, can pay profits with tin at its lowest price. Among the best of  
this latter class I place Royalton, and recommend the purchase of the shares  
wherever they may be met with. At their present price they are intrinsically  
very cheap indeed.

**MR. J. R. PIKE has FOR SALE the undermentioned SHARES**  
at the following net prices:—

20 Cook's Kitchen.	50 Prince of Wales, £1 3s	1 Wheal Seton, £24.
4 Cwm Eryn, £14.	2 Providence, £36 5s.	2 Carn Brea, £21.
1 East Pool, £36s.	1 South Caradon.	20 Chiv. Moor, £4 8s. 9d.
25 Frank Mills, £3 16s. 9	2 South Frances, £14 1/2	1 East Bassett.
50 Great Laxey, £19 15s.	4 Summer Hill.	50 East Grenville, £2 5s
15 Great Vor, £10 17s. 6d.	20 Tincroft, £16 17s. 6d.	50 Budnick Consols, £1.
10 Marke Valley, £9 6s. 3d	3 W. Chiverton, £33 1/2.	50 West St. Ives, 2s. 6d.
4 Minera.	50 W. Godolphin, 17s. 3d	50 East Reeth, £1 1s. 3d.

Parties may avail themselves of the above medium for the disposal of shares  
gratuitously, unless sales are effected, when a commission of 1 per cent. will be  
charged.

All shares for insertion should reach Mr. PIKE'S office on or before Friday in  
each week.

**TIN MINES.**—The price of black tin having advanced since the commencement  
of 1868 from £12 to £15 per ton, many mines can now be worked to advantage  
that formerly were unprofitable. Great care, however, should be exercised in  
their selection for investment. Mr. PIKE can recommend two tin mines for  
their present excellent position and dividends during 1869. All particulars on  
application. Established in Cornwall and London 30 years.

3, Crown Chambers, Threadneedle-street, London, E.C.

**MINING STOCK AND SHARE OFFICES, 25, CROSBY HALL CHAMBERS,**  
BISHOPSGATE STREET WITHIN, E.C.

**HARMAN, TRIPP, AND CO. ACT EXCLUSIVELY AS**  
AGENTS FOR PRINCIPALS, securing to clients a due and full return  
for their investments at a moderate commission.

A long residence in the Mining Districts, and an experience of over twenty  
years in the London and Provincial Markets, enable them with confidence to  
advise as to safe and profitable transactions.

The earliest telegraphic information received from their appointed local  
agents.

Several first-class Dividend-paying Mining, Banking, and Miscellaneous  
Shares on sale.

**INVESTMENT, LOAN, AND BANK AGENCY.**  
Established 1839.

PUBLIC SECURITIES of every description Bought and Sold upon advan-  
tageous terms. Facilities for payment, and every reliable information afforded  
to investors.

LOANS granted, for one year or any shorter period, on Stocks and Shares  
having a market value.  
Five per cent. interest allowed upon DEPOSITS of all amounts.  
Money and Finance Agency Business generally undertaken.  
RICHARD TAYLOR AND COMPANY.  
No. 12, Clement's-lane, Lombard-street, London, E.C.

**MR. T. P. THOMAS, MINERAL SURVEYOR AND**  
MINING AGENT, 77, OLD BROAD STREET, LONDON.

Mr. THOMAS, having had twenty six years' experience in British Mining is  
PREPARED to INSPECT and REPORT upon MINERAL PROPERTY.  
To capitalists desirous of investing in legitimate mining enterprise, and to  
owners of property containing mineral veins, Mr. THOMAS offers his services.  
Mining Securities Bought and Sold on the usual terms.

**MR. CHARLES THOMAS,**  
MINING AGENT, GENERAL SHAREDEALER, AND AUCTIONEER,  
3, GREAT ST. HELEN'S, LONDON, E.C.

Third Edition, price One Shilling; post-free, fourteen stamps,  
**MINING FIELDS OF THE WEST:**  
A PRACTICAL EXPOSITION OF THE  
PRINCIPAL MINES AND MINING DISTRICTS OF CORNWALL AND DEVON.

Published by CHARLES THOMAS,  
At No. 3, Great St. Helen's, London, E.C.

**MR. JOHN GIBBS (late LANE and GIBBS), 2, ROYAL**  
EXCHANGE, LONDON, E.C.

MARK VALLEY, EAST CARADON, WEST ROSE DOWN, and CARN CAMBORNE  
MINES.—Although difficult to effect transactions in these mines at times on the  
Mining Market the advertiser is always in a position amongst his corre-  
spondents to buy and sell at close prices, and does not hesitate to recommend  
a purchase in each and all of the above for a great advance in price and large  
dividends.

GREAT LAXEY and SOUTH DARREN. SPECIAL BUSINESS in these mines.  
Bankers: London and County Bank.

ESTABLISHED SEVENTEEN YEARS.  
**GRANVILLE SHARP AND CO.,**  
SHAREDEALERS, 92, POULTRY, LONDON, E.C.

Bankers: London and Westminster Bank, Lothbury, London, E.C.  
RELIABLE INFORMATION GIVEN TO SHAREHOLDERS & INVESTORS.

N.B.—It is quite impossible to "OFFER" a list of SHARES for SALE at  
FIXED PRICES, as market prices vary daily.

Stocks and Shares BOUGHT and SOLD at the closest market prices net.  
SPECIAL BUSINESS in the following Mines at the closest market prices:—

Chiverton Moor.	Great Wheal Vor.	South Condurrow.
Dolcoath.	Herodasfoot.	South Caradon.
Devon Great Consols.	Lovell Consols.	Tincroft.
East Wheal Lovell.	Marke Valley.	West Chiverton.
East Pool.	New Lovell.	Wheal Uny.
East Grenville.	Penhalls.	Wheal Chiverton.
Great Laxey.	Providence.	Wheal Grenville.
Great South Chiverton.	Prince of Wales.	
Great Western Mines.	Rosewall Hill & Ransom.	Wheal Agar.

WANTED TO PURCHASE, the following shares for cash:—  
20 TRUMPET CONS., £17 200 EAST CHIVERTON. 5 WEST WHEAL SETON  
50 NANGILES. 1500 EAST TRUMPET. 1500 NORTH JANE.  
10 WHEAL SETON. 20 WHEAL TRELAWNY. 15 WHEAL MARY ANN.  
300 GREAT CARADON. 10 WHEAL JANE. 100 EAST CARADON.

Sellers will please state number and lowest price for cash, all calls paid.

Established Twelve Years.—Twenty-four Years' Experience.  
**MR. F. W. MANSELL, 44, THREADNEEDLE STREET,**  
LONDON, E.C., recommends the IMMEDIATE PURCHASE of the fol-  
lowing shares:—

East Caradon.	Tamar Valley.	South Condurrow.
Drake Walls.	New Wheal Lovell.	Wheal Mary Ann.

EAST CARADON, having advanced 200 per cent. since I first drew attention to  
them, offers a good opportunity of securing a large profit to those disposed to  
realise; at the same time, my opinion is that they will see a much higher price.  
TAMAR VALLEY.—Rich lead is now being returned from this mine, which will  
leave a profit to the shareholders. Shares should be purchased.

WANTED.—The offer of 10 or 20 West Joint Friendship shares.  
Bankers: London Joint-Stock Bank.

**MR. HENRY MANSELL,**  
44, THREADNEEDLE STREET, LONDON, E.C.

EAST CARADON.—These shares have risen in price since I first advised the  
purchase nearly £7 per share, and will go better.

PRINCE OF WALES.—Parties holding these shares should take my advice,  
and sell.

New Lovell, South Condurrow, and Tamar Valleys are safe for a rise shortly.  
Thirteen Years' Experience.  
Bankers: London Joint-Stock Bank.  
References exchanged.

**MESSRS. A. STUART AND CO., STOCK AND**  
SHAREDEALERS, 93, BISHOPSGATE STREET WITHIN, LONDON, E.C.

E.C. have FOR SALE, free of commission, for cash or account:—15 Great  
Laxey, £19 1/2; 15 Lovell Consols, 9s. 9d.; 10 Don Pedro, £4 1/2; 30 North Tre-  
skerby, 17s. 6d.; 35 Prince of Wales, 24s.; 125 Taquaril, 6s. 3d. prem.; 1 East  
Lovell, £29 1/2 cum div.; 450 West Godolphin, 16s. 9d.; 20 Royalton, 29s. 3d.; 10  
West Cornwall Granite, £3 1/2; 40 Chontales, £1 1/2; 10 New Lovell, £3 1/2; 5 West  
Chiverton, £35 1/2; 25 Anglo-Brazilian, 10s.; 15 Cornwell Hematite, 9s.; 10 Pedra-  
an-drea, £5 1/2.

Prices not quoted may be secured at market prices, cash or account.

**MR. G. D. SANDY, STOCK AND SHAREDEALER,**  
No. 48, THREADNEEDLE STREET, LONDON, E.C.

FOR SALE—  
50 So. Condurrow, 17s. 6 40 No. Treskerby, 18s. 6d 5 Gt. South Chiverton.  
50 Tamar Valley. 20 Kitty (St. Ag.), £4 1 1/2 20 North Crofty, 25s.  
5 W. Chiverton, £25 1/2. 50 W. Great Work, £25. 50 Chontales, £1.  
50 Chiverton, £1 19s. 4 Mary Ann, £21 15s. 100 Prince of Wales, 22s.  
50 Drake Walls, 18s. 9d. 20 Wheal Uny, £3 18s. 25 Frank Mills, £3 18s.

**MR. S. GOMPERS, JUN., STOCK AND SHAREDEALER,**  
3, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

**MR. J. B. REYNOLDS, STOCK AND SHAREDEALER,**  
ETHELBURGA HOUSE, BISHOPSGATE STREET WITHIN, E.C.

Established Eleven Years.  
Bankers: City Bank, London, E.C.

**INTENDING INVESTORS.—The "FINANCIAL GAZETTE,"**  
published by Mr. Y. CHRISTIAN, should be consulted with a VIEW to  
the SAFE EMPLOYMENT OF CAPITAL. It contains Original Articles, a Re-  
view of the Money Markets, and a selection of investments paying 10 to 17 per  
cent., and such information as is necessary to guide intending investors.

6, Bond-court, Mansion House, London, E.C.  
Bankers: Bank of England.

**INVESTORS IN MINING COMPANIES.—**  
Mr. CHRISTIAN recommends the immediate PURCHASE of NORTH  
LEVANT SHARES, whether bought to hold as an investment or to sell again.  
It is a splendid property, and dividends are close at hand. Although Mr.  
CHRISTIAN is the only person publicly recommending the purchase of shares in  
this set, he does so with the greatest of confidence, feeling assured that those  
who buy now will do well.

**CORNISH TIN MINES.—**  
Before investing in ROYALTON, get full information about EAST  
ROYALTON, from  
T. A. MUNDY AND CO., 38, BISHOPSGATE STREET WITHIN; or  
W. HANNAM AND CO., 449, STRAND.

**TIN, TIN, TIN.—TO INVESTORS AND CAPITALISTS.—**  
The Advertiser is in a position to NAME TWO TIN MINES, the shares  
of which are almost certain to ADVANCE ONE HUNDRED PER CENT. in  
value during the present year. This is a splendid opportunity for those looking  
for a safe investment of capital. Terms, 5 per cent. on the profits realised  
during present year.

Address, "O. Z.," MINING JOURNAL Office, 26, Fleet-street, London.

**CHONTALES GOLD COMPANY.—FULL PARTICULARS**  
of the DIFFERENT CLASSES OF SHARES can be obtained on application  
to Mr. J. H. MURCHISON, No. 8, Austinfriars, E.C.

**MR. EDWARD BREWIS, STOCK AND SHAREDEALER,**  
No. 34, OLD BROAD STREET, LONDON, E.C., has BUSINESS, for  
cash or account, in all the various Mining Securities at best market prices.  
SPECIAL BUSINESS in General Brazilian, Chontales, Don Pedro, Lovell  
Consols, Taquaril, West Chiverton, West Godolphin, and Glan Alum.  
Bankers: The Alliance Bank, London, E.C.



## Original Correspondence.

## MINERAL WEALTH OF NORTH WALES.

[FROM OUR OWN CORRESPONDENT.]

Accounts from time to time received from North Wales afford rather scanty information as to the extensive mining operations taking place in that part of the Principality, although just now capital appears to be finding its way there to a much larger extent than for several years past. Not only are there some considerable lead mines being opened out, but several large collieries are in course of sinking, all of which give promise of turning out successful, and so finding profitable and permanent employment for many hundreds of workmen. For the purpose of ensuring the most reliable information with regard to the two important branches of trade named, we were induced during the past week to visit the localities in which they are the most extensively carried out. For that purpose, on leaving Chester, we chose Hawarden as our first resting place, and where, some 30 yards from the principal entrance to the Castle, we were comfortably, and even luxuriously, quartered at the Glynn Arms Hotel, past which we every morning observed the Prime Minister proceed on foot to the morning service at the parish church, courteously saluting those he met with. Mr. Gladstone, as well as his brother-in-law, Sir Stephen Glynn, have a considerable interest in the mining operations going on in the neighbourhood, the latter being the lessor of a large tract of coal now being worked under the Hawarden estate.

In the town of Hawarden itself there is a rather extensive iron establishment, belonging to Messrs. Ratcliff and Sons, who have a large trade in mining machinery, boilers, &c., and who recently sent an engine to the Silkstone Main Colliery, now being sunk near to Barnsley, and several others into Prussia. The firm enjoys a high reputation for boilers also, and supplies them to the mines in all parts of the coal and lead districts, being now engaged on some 16-ton ones for the Broughton Colliery, near Wrexham. The largest colliery in the district, however, is that about two miles from the town, known as the Aston Hall, belonging to a limited company: the leading members are resident in Yorkshire, the Chairman being Mr. Meek, of Yorkshire; Mr. J. Crossley, Halifax, Mr. Fenton, Huddersfield, and Mr. Allott, Sheffield, being directors. At the present time there are three pits at work, and a fourth one, to the Flintshire main seam, is being sunk by Mr. Bradley, and will be completed in about two months, so that the out-put of coal will be very large. With regard to the management of the pits, it may be stated that Mr. Jeffcock, of Sheffield, is the consulting engineer, Mr. Grattoner, of Darlington, general manager, and Mr. Young, under viewer. In addition to the extensive colliery works, the company have a vast brick-making and pipe and tile establishment, the whole of the buildings covering several acres of ground, there being a capital seam of fire-clay, about 5 feet below what is termed the Yard coal. The clay is of excellent quality, not being affected in colour, when burnt, by the weather. Two of the kilns at the time of our visit contained no less than 25,000 bricks each, whilst there were sheds containing thousands of pipes, from 6 to 18 inches in diameter. The concern, so far, gives every indication of turning out highly successful, and when in full operation will employ several hundred workmen.

Near to the Queensferry station the Prestatyn Coal Company are sinking two new shafts, under the superintendence of Mr. Gilroy, having the great advantage of direct railway communication in all directions, as well as being close to the River Dee at a point where vessels of considerable tonnage can load. Not far from the colliery is the Colmer Works, where a rather large business is done in the extracting of tar from coal. Near to Bagillt, on the main line to Holyhead, the coal seam was tapped some time since, close to the River Dee, but the water got into the shaft, and sinking for the time was abandoned. Now, however, an immense shaft is being sunk, quite close to the Dee, into which most of the stuff taken out is deposited. The diameter of the shaft, we were informed, was no less than 20 feet, exclusive of 3 feet of walling set in cement, so that the colliery will be one of the largest in the kingdom when completed; but, from the nature of the stuff to be removed, a good deal of it being sand, requiring great care in taking out, is likely to occupy some considerable time. Mr. Jackson, we believe, is one of the principals in this vast concern, of which Mr. Woodhouse, of Derby, is the engineer, and Mr. Johnson the resident. The latter gentleman stated it as not unlikely that a seam of coal, 15 feet thick, would be reached at a depth of something like 250 yards. At the Coppia Colliery, where some new pits were sunk last year, the Cannel one has been stopped, owing to an influx of water, and for the drawing off of which a new tank is being made. In the neighbourhood of Buckley new engines and boilers have just been put down at Little Mountain Colliery, and work is now progressing in a satisfactory manner; whilst in the same locality the Argoed Company are engaged in sinking two shafts to the Main coal. About a couple of miles or so from the last-named locality the Messrs. Thompson have just sunk one shaft to the Four-foot seam, which is the finest quality of coal in the district, and are now sinking a second one.

A very fair amount of business is done by the collieries in Denbighshire, and some new concerns are being opened out, amongst which may be noticed the Morton Hall Colliery Company, of Wigan, who are engaged in sinking two new shafts, and putting down new and powerful machinery and boilers, manufactured by Messrs. Radcliff and sons. Near to Mold there are a large number of pits, in which a very valuable seam of Cannel coal is raised, amongst the most prominent of which may be named that of the Welsh Cannel and Mineral Oil Company, whose place is of a truly model character, including the most complete machinery, with substantial and pleasing buildings. The Bromfield Hall Colliery Company is doing a very fair business, a good deal of the coal, which is of good quality, finding its way to Birkenhead.

About half-an-hour's drive from Mold is Leeswood, where there are several large collieries, in which the Cannel coal is obtained, and some of which is very rich indeed in oil, some of the specimens of what is termed the "curly," which were shown to us, burning like a dry stick, the oil itself exuding out during combustion. At one of the collieries which we visited we were informed that as much as 80,000 gal. had been expended on the works, owing in some measure to some "faults" having been encountered. At present the company is raising about 200 tons daily of common coal and 100 tons of Cannel, but which it is expected will be largely increased in the course of two or three weeks. The Cannel realises from 17s. 6d. to 20s. per ton, and is principally taken for the purpose of extracting the oil, of which upwards of 80 gallons, we were informed by Mr. Young, was extracted from a ton of the coal. The Leeswood Main Coal Company is now doing a moderate trade, the men working back, as the present take, it is expected, will be exhausted in the course of a year or two. At Coed Talon there is not so much doing, as it is said the Main coal seam is nearly done, operations being now principally confined to the getting of the "brassy" bed. At Altamy, it is said, further sinking has been given up, although the brassy coal was sunk to, but as it was not equal to expectations, Messrs. Meek and McCulloch have abandoned it. The Rake Colliery, once a rather flourishing concern, but which, owing to some dispute, has been standing for two or three years, it is said is again likely to be opened out, and will doubtless pay those who take it in hand.

Having thus gone through a brief notice of what is doing at the different colliery districts in North Wales, it may be stated that the total quantity of coal raised last year in Flintshire, Denbighshire, and Anglesea was close upon 2,500,000 tons, of which Denbigh produced about two-thirds. A good deal of the steam coal is sent to Birkenhead by railway for exportation, in consequence of which advantage was recently taken by the loaders, or coal-heavers as they are termed locally, to ask for increased prices for their work. This might have led to serious consequences, so far as regarded the trade, had not the Mersey Dock and Harbour Board taken the matter in hand, and by putting down "tips" given increased facilities for the loading, ensuring a great saving in time, and dispensing with a good deal of labour. This affords another instance of the folly of strikes, and the injury inflicted on those who promote and take part in them. A good deal of the Cannel coal raised is bought for the purpose of extracting the oil which it contains, and which in its crude state, we were informed, was worth from 1s. to 1s. 4d. per gallon.

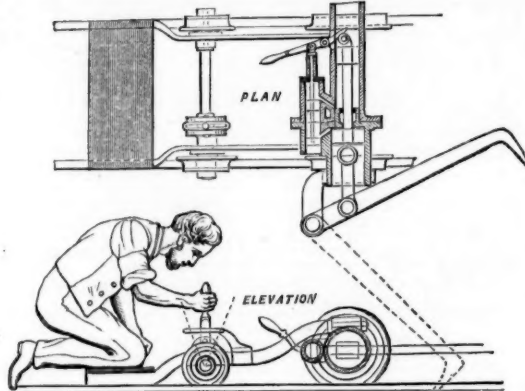
There are several large oil works in various parts of the country, and a very considerable business is being done at them, the one at Mold, belonging to Mr. Marsden, being very active just now.

Before concluding our notice of the collieries of North Wales, the great increase which has taken place in the out-put of coal in that part of the Principality during the last year or two is worthy of special remark. In 1866 Flint and Denbigh, with two or three collieries which are worked in Anglesea, produced 2,082,000 tons, whilst in 1867 they raised 2,371,250 tons. Flintshire alone increased its production from 570,000 tons in 1866 to 885,000 tons in 1867—an increase of more than 50 per cent. in one year!

There is very little pig-iron manufactured in North Wales, there not being on an average more than four furnaces in blast, so that the entire quantity produced in 1867 was only 32,843 tons, and for the make of which ironstone had to be imported from other districts, seeing that the whole produce of the four or five mines being worked was only 44,082 tons. There are, however, some very fair sized iron works, amongst which, in addition to those given, may be named the Sandicroft Foundry and Engine Works, close to the River Dee, and where the unfortunate steamer, the Royal Charter, was built, and launched with great difficulty. There are also some vast chemical works, foremost amongst which are those of Muspratt, Huntley, and Co., where some 400 or 500 men are employed.

Having so far noticed some of the minerals of North Wales, more particularly the coal and iron, we propose in our next to give some information relative to the lead mines, many of which are known, not only for their yield of the heavier metal, but for their richness in silver. So far it will be seen that the mineral wealth of North Wales is being largely developed, and that where the prospect of a fair return for money is seen there are plenty of capitalists ready to embark in a really legitimate mining business.

## COAL-CUTTING MACHINERY.



SIR,—I beg to hand you sketch of plan and elevation of one of my Coal-Cutting Machines, which, after ten years' close attention, I have succeeded in devising—an effective and practicable coal-cutting machine, adapted for any thickness of seam, from 12 in. upwards. It is quite simple, and has but very little machinery to get out of order. The cylinders are of two different sizes, joined together end to end, the outer ends being open. The larger cylinder serves to give the blow, and the smaller one to give the return stroke; the two cylinders also form the axes for the running wheels. The open end of the larger cylinder is towards the face of the coal, on which is fixed a hoop and bearer, to carry the root end of the cutter, which can be made to move and cut at any angle; the hind wheels are only to carry the attendant when propelling the machine forward when at work. In all other respects the machine is self-acting. The same power being given to drive back the pick as to give the blow has always been a great evil as well as a waste of power. This is completely remedied by the above arrangement.

J. ROTHERY, Colliery Viewer,  
(And one of the inventors of the machine known as the West Ardsley Machine of 1861).

Waterloo Main Colliery, Leeds, Jan. 20.

## COLLIERY MANAGEMENT—BRATTICE CLOTH.

SIR,—I noticed in last week's Journal a letter from Mr. Ellis Lever to Mr. Peter Higson, the Government Inspector of Mines, in reference to Brattice Cloth. Will you permit me to remark that, in my opinion, the sooner the use of brattice cloth, either in long lengths or short lengths, is done away with the better, both for the workmen and the employers? Mr. Higson says "there is not a great deal of skill required in ventilating a coal mine." I would here observe that, in my opinion, there is considerable difficulty in ventilating a coal mine efficiently where there is so much brattice cloth used, and in such long lengths; in narrow work I look upon it as a great mistake. One of the Special Rules says the underwriters must see that all air-courses are made and maintained not less than a certain size, according to the thickness of the seam being worked, and the same rule also gives power to contract the airways to about one-third the size it has before ordered should be made and maintained. For instance, I will suppose the thickness of the seam to be 4 ft.; the airways are to be made not less than 16 square feet sectional area, then the brattice cloth to be from 18 in. to 20 in. or even 2 ft. from the side—and 6 ft. is even wider than the nature of the roof will allow in some cases of narrow work. The result is, if a fiery seam and giving off much gas, the brattice cloth is put nearer the side, and, of course, still more reduces the room for the air. I would, therefore, suggest that efficient ventilation depends not, as Mr. Lever observes, "very much on the quality and make of brattice cloth," but on the use of the cloth being reduced to a minimum, and compressed air supplied direct from the surface in pipes suitable to the place to be ventilated, independent of the ordinary means of ventilation. This would remove all danger from places requiring bratticing; and the cost of gas-pipe, would, I believe, not be more than the brattice cloth, for it does not last long under the best circumstances.—Leeds, Jan. 27.

COLLIER.

## CRADDOCK'S HOT-AIR ENGINE.

SIR,—In addition to what appeared in the Journal in June and July, 1847, and in my letter of Jan. 16, 1869, with your permission, the public is here informed what I have done in relation to Hot-Air Engines. For this purpose see the *Mining Journal* of 1853, p. 411, and there it will be seen I have shown how the mechanical structures invented and described by me in my last letter can, by employment of heat and air, be used as far as air will admit, in the same way as I use steam expansively. There it is seen that steam generated in my boiler is made to heat the air after compression, on its way to the power-giving or working cylinder, or cylinders. For the more ready comprehension of how the air is so heated, see the "Engineer" of Dec. 25, 1857, p. 475, and what is there shown as a superheater for steam, suppose it to represent my steam chest with those tubes for the air to pass through, and the steam surrounding them, and you have all the practical ideas requisite to enable anyone to construct a hot-air engine upon my principle, as set forth in the *Mining Journal* of 1853, p. 411. Whoever will take the trouble of considering how I present the air as compressed, heated, expanded, and used will see my hot-air engine is original, practical, and exhaustive of the advantages inherent in given quantities of heat and air. The points in favour of such hot-air engines are the absence of a condenser and the non-passing of the steam from the boiler, but only the transference of the heat from the steam to the air, whilst the use of my regulating damper adjusts the temperature of the steam to that which practice, under the varied circumstances given, demands. For portable-engines of small power such hot-air engines are those, if any can, that will in practice compete with steam. The heating by the agency of steam is not a necessity, as instead of the hot air going through the tubes, after compression, it may surround the tubes, in place of the steam, or pass through annular spaces formed by slightly larger tubes surrounding those seen. In either of these cases the hot products of gas, or of any of the burning fluids, might

be passed through the central tubes, as in the locomotive, or such products can be passed over the exterior, or annular spaces, and the compressed air pass through the interior tubes; if these latter modes be adopted, a light external casing would prevent the useless dissipation of heat, and on these products of combustion being made to pass in the opposite direction to the compressed air, as they were cooled they would act upon the less heated compressed air, and effect the most beneficial transfer of heat. In these ways we get the most perfect hot-air engine it is possible to make. THOS. CRADDOCK.

44, Friston-street, Birmingham, Jan. 25.

P.S.—In my last letter, in the Supplement to the Journal of Jan. 16, at page 55, bottom of second paragraph in first column, for 1857 read 1847.

## IMPROVEMENTS IN ORE DRESSING.

SIR,—There is, perhaps, nothing in which improvement is more necessary in connection with the mines of Cornwall and Devon, than in ore dressing, for it is a lamentable fact that the surface managers of many of our principal mines know less of what is doing beyond the boundary of their own sets than the adventurers in mines, who are, of course, supposed to know nothing of the working part of mining operations. I find among the patents recently applied for, that Mr. William Rule, jun., of Dolcoath Mine, tin-dresser, obtained provisional protection for an improved machine or apparatus for dressing metallic ores, which he describes as a table, circular in form, and with a roughened surface, and having an inclination towards its centre, which is cut out, is made to revolve slowly, and during its revolution the metallic ore and the earthy and other foreign matters from which it has to be separated are allowed to fall in a semi-fluid state upon the periphery of this table, and owing to the inclination of the table towards the centre, the earthy and other foreign matters gradually descend through the hole in the centre, leaving the heavy metallic ore, which is afterwards washed off as it reaches a certain point in the revolution of the table into a separate receptacle by a strong stream of water being allowed to flow over that part; water may also be applied throughout, or for any portion of the revolution, to accelerate the disintegration of the earthy and other foreign matters, and cause their speedier deposition in the centre.

I do not for a moment doubt that a machine of this kind would give very good results in use, but I am at a loss to understand the advantage which it would possess in comparison with the concave buddle, and, as the latter has been in use for many years, I should presume that it would be better understood by the workmen than the present machine, in which the brushes are dispensed with. I have watched the operation of a large number of Cornish ore-dressing machines, and it appears to me that the waste of water is enormous, at least ten times as much being used as is absolutely necessary. I think, too, that with Mr. Rule's machine the waste would far exceed that with the concave-buddle, so that if he were to turn his attention in that direction he might find it desirable. Under any circumstances, I should be glad to learn, through the medium of the Journal, at what mines, and with what result, his machine has been applied.

Camborne, Jan. 27.

BUDDLIER.

## SEPARATION OF COPPER FROM SILVER.

SIR,—The vast importance which would be secured to mine adventurers by the introduction of an efficient and economic process for the extraction of copper by the wet way has frequently been pointed out in the *Mining Journal*, yet the poor ores of Cornwall are still comparatively worthless to the miners, since they contribute but very little towards paying the general cost of the mine. Now, so far as poor ores containing nothing but copper are concerned, I think it is very doubtful whether the value of the metal will repay the trouble and expense of extracting it, but when the ores are slightly argentiferous there can be no doubt that they may be profitably treated. There was an invention recently introduced by Mr. Richard Pearce, of Swansea, to which I think far too little attention has been given. It was intended more especially for the purification of silver which had been precipitated by copper from its sulphate, nitrate, or chloride, but might, probably, be applied with equal success when the silver is precipitated with copper—at least it is worth a fair trial.

The impure silver, according to the invention of Mr. R. Pearce, is placed on a filter in a boiler, and water is added, together with a little sulphuric acid, the quantity of the latter necessarily varying with the amount of copper, as will be well understood. Steam, with air mingled therewith, is then admitted by means of an injecting apparatus, violent ebullition ensues, and the copper becomes oxidised, and is dissolved by the sulphuric acid. Should the ebullition become too violent it may be checked by admitting less air. After being boiled in this way for about two hours the solution of sulphate of copper is drawn off, the silver stirred so as to make it a little more granular, a fresh supply of water (which has been slightly acidulated with sulphuric acid) is added, and the mixture is then boiled for about one hour. The solution is afterwards drawn off, and the silver carefully washed with clean water. The silver, when dry, has only to be melted in crucibles for fine silver, refining in the usual way, by means of lead, being quite unnecessary. In the event of a little silver passing into solution towards the close of the operation of boiling, plates of copper may be introduced into the boiler for a few minutes, and the air excluded. Any traces of silver that may have passed into solution will thus be precipitated.

At present whatever gold and silver the copper ores of Cornwall may contain goes to the smelter without any account being taken of it, consequently it is entirely lost to the miners; whilst from the fact that the smelter has no convenient means of extracting any metal other than copper, even the smelter derives no advantage. With the aid, however, of Mr. Pearce's invention, I have no doubt that even very small quantities of silver, and no matter whether the ore were rich or poor in copper, might be profitably extracted. The invention appears to me to be one which is in every way worthy of consideration both to mine adventurers and to smelters. METALLURGIST

Builth, Jan. 27.

## UTILISATION OF WASTE PRODUCTS FROM TREATING GOLD AND SILVER ORES.

SIR,—Although I am quite willing to admit that the treatment of gold and silver ores has not generally been attended with success in this country, I think that so many of your readers are interested in foreign gold and silver mines that a brief account of the invention of Mr. A. L. Henry, of Boston, U.S., who is known even in England as a metallurgical chemist of high reputation, will not be uninteresting, and more especially as the attention of English capitalists is just now directed to gold and silver mining enterprise in the Western States of America, to the treatment of the ores from which Mr. Henry's invention appears to be particularly applicable; its great recommendation being that not only is the gold and silver extracted, but the products resulting from the treatment are turned to pecuniary advantage by obtaining them in a marketable state. He proposes to mix the powdered gold or silver ore with a proportionate quantity of natural or artificial fluoride of calcium, or of any fluorine salt or acid, and to expose this mixture to the combined action of steam and carbonic acid. A decomposition of the mineral results and a milky solution is obtained, from which the mechanically suspended gold is abstracted by passing the liquid through a bath of mercury or other suitable menstruum, and the refuse, the mineral solution, is used as a cementing liquid or base for paint.

The loss of the precious metal in extracting it from the ore is a source of continual complaint, and it is well known that unless the whole of the gold ore is brought to a state of fine division, and perfectly amalgamated, and in some instances even the chemical combination of the ore itself broken up, this loss amounts to a considerable percentage, in proof of which it is only necessary to refer to the report presented last week at the meeting of the Port Phillip and Colonial Gold Mining Company. Now, Mr. Henry states that by his process he is not only enabled to extract all the gold from the quartz, but obtains a refuse material which can be used with great advantage in the arts, and become a commercial article. As gold is liable to exist as a silicate of the oxide of gold, or chemically combined, with silicium, the use of fluorine in his process increases the yield of gold from such ores as contain the precious metal in such chemical combination. He mixes the pulverised gold or silver ore with from 5 to 25 per cent. (according to the more or less siliceous nature of the ore) of fluor-spar, cryolite, or refuse from the working of the



oryolite, or any other suitable fluorine salt or acid, and when thoroughly mixed together he places the mixture in a strong boiler, which should have a stirrer, placed inside in such manner as to permit the agitation of the mass, in order to prevent the material from adhering to the bottom. He then adds to the mixture about 1 gallon of water for every pound of the said mixture; the said boiler is so arranged that a pressure of about 60 lbs. can be kept up for about two or three hours, the escape being so regulated that the vapour can be condensed in a cistern of water. To facilitate this action the boiler itself may be set over a fire, or kept heated by a steam-jacket. When the boiler is closed, and the valve fixed, as above stated, he introduces into and among the agitated mixture steam and carbonic acid, until the whole is dissolved into an opalescent milky liquid. The carbonic acid can be produced by any of the known processes, and either injected alone by its own pressure or by a Giffard's injector introduced with the steam. The quantity of carbonic acid should be about one quarter of the steam injected. After the solution is complete the steam and carbonic acid are shut off, and the whole is allowed to cool down to about 200° Fahr. He then passes the liquid through a properly constructed amalgamating bath, where every particle of suspended metal is taken up by the mercury, and can then be obtained in the usual way.

With regard to the liquid from which the gold has been extracted, Mr. Henry proposes that it should either be sold as a new article of commerce, or applied at once to the various purposes for which it is adapted. When mixed with lime, oxides of iron, zinc, or lead, it gives an excellent fire and waterproof paint for houses, bridges, railroad depots, warehouses, and ships; it can be used for the impregnation of railroad sleepers and timber for various purposes, as it prevents and arrests decay; with sand and clay it makes an excellent cement for the manufacture of water, fire, and weather-proof materials, applicable for roofs and other purposes; combined with paper pulp, sawdust, and other similar materials, it can be pressed into moulds, and facilitate their manufacture into many useful articles; mixed with sand and clay, lime, soapstone, cinder from iron, copper, or other furnaces, a variety of useful and ornamental objects can be made, as also used as a lining for wooden, iron, and other vessels used in the arts and manufactures; and, lastly, when mixed with white quartz, sand, and slightly compressed white flint, an imitation marble, suitable for statuary or other ornamental purposes, can be made.

Theoretically this invention appears to possess all the elements of success, but what I should like to ascertain is, whether it has been practically tested on a commercial scale, and what has been the result. One of the prettiest inventions which I recollect was that of the Electric Power, Light, and Colour Company, the object of which was to employ electricity as a motive power, and for the production of the electric light; and to use such a battery that the wasting of the metal should produce brilliant metallic colours of marketable value. In all the experiments that were made the results were most satisfactory—the light was brilliant, and the colours produced in the battery, especially the Prussian blue, were superb; yet, when it was tried on the commercial scale, and without the immediate superintendence of the inventor, it did not succeed; in fact, it appeared to require that amount of precision which, although commonly practised in the laboratory, is seldom attained by the comparatively unskilled workmen in the factory. It is for this reason, and not from any misgiving as to the practicability, scientifically speaking, of Mr. Henry's process, that I ask the question whether the invention has been applied commercially?—Jan. 26. — F. C. L.

#### MINING IN CALIFORNIA—SPURIOUS REPORTS.

SIR.—Observing a letter in the *Mining Journal*, signed Joseph Organ, from Humboldt county, Nevada, I wrote him in reference to it, and found by his reply, which I enclose to you, that his name had been forged for the purpose of enhancing the apparent value, for market operations, then pending. You know me and my handwriting, and I would advise your readers to be careful about communications of a rosy colour, emanating from the State of Nevada, as they are generally written for such purposes. The good mines of Nevada are few, and very far apart, and those are worked by the Americans. I have intertrilled the country for 21 months, having ridden some thousands of miles in many directions, examined hundreds of so-called ledges without success; and I am justified in saying that 10 square miles about the Carn Brea Hill, in Cornwall, have produced more mineral profits than all this State will do from its mountain veins, in 80,000 square miles of country, during the present generation. The region is composed of an excess of igneous and volcanic rocks, which extend from the Sierra Nevada to the Rocky Mountains. The minerals are found in the small patches of uplifted secondary strata, and in the less frequent prominences of primitive rock. This paucity of mineral is extraordinary; and as the mountains are washed clean to the rock, appears more palpably certain. The mountains are generally somewhat parallel, running in northerly trendings, as very elongated pyramids, about 20 miles asunder, like islands in a desert flat. I think it very probable that these flats are of a secondary formation, and contain the better defined mineral veins, which are so deeply covered with debris from the mountains that they cannot be examined. The White Pine district, which is now producing superlatively rich chloride of silver, in pockets, and creating much excitement here, is an illustration of the former, and the Austin Mountain of the latter formation. I have not seen the White Pine district. The Austin Mountain is, in my opinion, the best-defined and largest mining field in this State. Idaho and Arizona territories are opening favourably, as several good mines have been found with comparatively little prospecting. California contains an immense area of talcose clay-slate, which has been upheaved by the primitive Sierra Nevada, forming favourable declivities for mining the rich quartz veins that are being but partially worked, though they are eminently enticing. M. E. San Francisco, Dec. 23.

#### NOVA SCOTIAN GOLD MINES.

SIR.—My last promised some details of the so-called "unproclaimed" districts. These are tracts where gold has been discovered, but which have not been recognised by proclamation. The principal districts of this class are named below:—

**ECUM SECUM** is on the south-eastern coast, and was first opened during the past summer, but developments have not progressed far enough to prove the district. The advantages claimed for it are—the number of lodes visible, no depth of soil to encounter, plenty of timber, and a good water-power.

**FIFTEEN MILE STREAM** received considerable attention last year from professional explorers, and about 3000 acres have been secured under lease and licence. Two mills are contracted for, and a road is being constructed, partly at Government cost, and partly at the expense of the miners. A large quantity of gold has been taken from boulders, but no lodes of any consequence have yet been opened. The district is well wooded, has a good stream passing through it, and is popular in its present undeveloped condition. It will be much more so in the coming summer, when a good road is completed, the want of which was one of the causes of no actual mining being commenced last year.

**MUSQUODBOIT (JENNINGS)**.—This district has the reputation of showing more gold on the surface than any other in the province, but over a large extent the depth of soil is great, and the ground wet, which will render prospecting difficult and expensive.

**GAY'S RIVER** has been a candidate for public recognition for more than four years as a well situated and likely ground for profitable alluvial mining. The families of two farmers, who own the ground, have made a fair income by working in a rude way, and experienced travellers who have visited the locality pronounce it one quite worthy of extended operations. It is referred to at length in the report of Dr. T. Sterry-Hunt on the Gold Region of Nova Scotia.

**NINE MILE RIVER** is supposed to contain alluviums. Test millings of a few tons have given sufficiently encouraging results to warrant further search.

**KILLAG—A "rush"** was created for this district last spring, but subsequent explorings failed to discover any lodes, although rich boulders abound in several places. About 1500 acres were secured under prospecting licences, but all abandoned in the course of three months. Depth and wetness of soil are the formidable obstacles to successful prospecting.

**GOLD RIVER**.—One would suppose an interest to attach to this district from its name alone. It was opened early in 1861, but leased principally by parties in the United States, who withdrew from mining as the war progressed. The district has, therefore, never been properly tested, but responsible parties are preparing now to explore it systematically so soon as the snow disappears from the ground. Mr. H. Poole, Dr. Dawson, Prof. Marsh, of Yale College, U.S., and Prof. How, of King's College, Nova Scotia, have noticed the district, and the latter obtained very good results from washing the sands of the river. The site is well adapted for supporting a large mining population, being near the sea, 7 miles from the town of Chester, and only 52 miles from Halifax, from which it is approached by one of the best roads in the province.

**INDIAN PATH** is about 25 miles further westward than Gold River. Two young English gentlemen, associated with a practical Nova Scotian miner, commenced developing this district on their own resources. They have erected a stamp-mill, driven by water-power, and have incontestably proved the district to be worth the attention of others. The lodes are numerous, and one over 2 ft. in width. The only drawback to more general prospecting is the depth of soil.

The foregoing are about all at present known deserving special attention. Tracts that have been partially prospected can be bought

for about 5% sterling per acre, though speculators will ask as much as 50%. If taken up under licence direct from the Government the cost for one year is not more than 5s. per acre, but if secured by lease it is \$2. An area is nearly three-quarters of an acre, or 250 feet by 150 feet. The present rate of miners' wages is from 4s. 6d. to 5s. sterling per diem; a leading man gets 6s.; mining captains, from 15s. to 25s. per month; and mill superintendents and engineers, from 12s. to 20s. Trained miners are scarce, and about May, or even earlier, a hundred honest Cornishmen would find no difficulty in obtaining steady employment.

English capital could be invested here profitably, but not if wholly undeveloped tracts are paid for with more pounds per foot than they originally cost in dollars per acre. The Ophir, Palmerston, and Wellington Companies, all controlled in Boston, were the mainstay of last year's product, but have merely been successful through providential and economical management. ACADIENSIS.

Halifax, N.S., Jan. 14.

**GOLD RETURNS.**—The following is an abstract of the mill-owners' returns for the month of December from the different gold districts in Nova Scotia:—

Mill.	Quartz crushed.	Gold yield.
Donlinson .....	320 0	129 9 0*
Glencoe .....	168 0	72 8 0
Wellington .....	207 14	232 16 12
Meridian .....	100 0	18 8 18
Chicago .....	50 5	1 0 0†
Union .....	8 10	3 5 0
Palmerston .....	200 0	41 10 0‡
Wentworth .....	194 16	22 15 0
Lake Major .....	111 0	29 11 14
Boston and N.S. ....	146 0	52 2 0
Waddellow .....	27 0	5 13 22
Atlantic .....	44 0	10 19 4
Barton .....	37 16	24 8 0
Victoria .....	56 12	32 14 11
Machias .....	78 0	24 1 9
Orient .....	Not stated	7 19 7
El Dorado .....	202 0	49 5 6

The returns from Uniacke district are not all to hand, but the following data indicate its progress during the previous quarter:—

Company.	Days' work.	Quartz crushed.	Gold yield.
Mt. Uniacke .....	4074	Tons 490	Ozs. 345 6 0
West Lakes .....	2207	630	136 9 0
Queen's .....	4297	512½	239 9 0
Central .....	383	23	35 3 0
La Mothe .....	Not given	8	5 2 0

\* From about 18 ft. of vein stuff.  
† The exact figures of the returns, but evidently an error.  
‡ From 18 ft. of vein stuff. This company has already paid for the mine and plant, and divided \$50,000 bonus among its shareholders, within two years. It is owned in Boston.  
§ This is the property that produced 234 ozs. from 13 tons in February last, and further bunches of rich ore are expected to be met in sinking, the greatest present depth being only 65 feet.

#### THE STANNARIES LAW AMENDMENT—No. II.

In my last week's letter on this subject I ventured to submit that one of the enormous evils connected with the management of cost-book companies in Cornwall is, that merchant adventurers, or their nominees, are permitted to have seats at the board of management, and to vote supplies. To the question, How can this evil be obviated? I answer, by the cost-book articles providing that all contracts for supplies shall be submitted to public tender, and that no tender from an adventurer or from his firm shall be accepted. Such a provision would purge Cornish management from one of its chief blots, and go far to establish confidence in the direction of cost-book mining companies.

The second evil has relation to Stannary Law, and is based on the fact that the head-quarters of the Stannary Court is pertinaciously kept at Truro. This is a very serious evil, and one that forms an insuperable bar to Cornish enterprise being favourably considered in London and in other large commercial centres situate at a distance from that county. The Duchy has always been jealous—indeed, over-jealous—of the privileges of its courts. Thus, it has always been its practice to except the rights of the Duchy and its courts from all recent Acts of Parliament having relation to mines, joint-stock companies, &c., which the requirements and progress of the age have from time to time demanded as necessary for the well being of the rest of the community. The Duchy rarely, and then with evident hesitation, adopts any reform; and, therefore, it is that the Stannary officers have been now requested to suggest to the committee what they think necessary for increasing the efficiency of their court. Hitherto the Duchy Court has strenuously and successfully resisted all pressure from without, it has pertinaciously refused all reforms, and it has, with a doggedness astonishing to those whose interests are prejudicially affected by its obstructiveness, insisted that adventurers in Stannary mines shall have Stannary justice at Stannary times and places or none at all. Such a course of conduct, if further persisted in, will lead to consequences most disastrous to the Duchy and its courts, and prepare for them a fate which will afford another illustration of that canine sagacity which whilst grasping at a shadow lost the substance. In Cornwall the Stannary Courts and their principles may be much prized; there they are known and understood, and their officers respected. And I freely admit that in times long since passed such courts have been useful and efficient. But now, when large capitals are called for and subscribed out of Cornwall, it is unjust to insist that a stranger—say, in Aberdeen—shall submit his interests to the adjudication of local courts situate in a county which probably he knows only from the fact that his losses and misfortunes have arisen within it.

The above expressed dissatisfaction at the inefficiency of these courts has not now been mooted for the first time. Certainly not; on the contrary, their inefficiency has been a by-word during the last quarter of a century, and worse still, such inefficiency is not merely negative in its effects, but operates directly to prevent the flow of capital into Cornwall. Capitalists residing in distant parts of the empire readily acknowledge the metropolis as the locale of English justice, and they are familiar with its courts and judges. But what do they know of the Stannaries or its courts? Nothing—absolutely nothing. And, further, when the dark days of their adventure arrive, their legal advisers tell them that the Stannary Courts are located in Cornwall, that they are governed by a body of principles and statutes that it would take half a life time to master and understand, that they (the legal advisers) are ignorant of them, and that they (the capitalists) must confide their causes and their interests to strangers, to whom they are unknown, and who have neither sympathy for them nor care for the results of their cases.

The conclusions I draw from the above facts are, that in order as well to render the Stannary Courts efficient, as to prevent them from being any longer an impediment to the mining enterprise of Cornwall, it is necessary that the following, amongst other, reforms be forthwith effected:—

- 1.—That the Stannary Courts must relinquish their exclusive jurisdiction over mining concerns, and allow the county and all other courts, whether metropolitan or otherwise, to have concurrent jurisdiction.
- 2.—That the head-quarters of the Stannary Courts must be situate in the metropolis, with (if need be) branch registries at all convenient towns within Cornwall and Devon.
- 3.—That all winding-up petitions, where one-half of the adventurers reside out of the Stannary jurisdiction, shall be heard in the metropolitan court, sitting either there or at some other place out of Cornwall and Devon.
- 4.—That the jurisdiction of the court be extended to all minerals, mineral products, and their manufactures, such as coal, slate, clay, bricks, tiles, &c.
- 5.—That the procedure of the court be very much simplified and rendered more expeditious and less expensive.
- 6.—That reports, signed by the Vice-Warden, of the state and condition of all causes for the time being pending before his courts, be annually laid before Parliament.

It is expected that the Stannary officers will express their amazement at the above suggestions, and insist upon their impracticability; and they, being powerfully backed, may successfully withstand all attempts at radical reform. If so, I venture to prophesy that the next committee called to deliberate on the Stannary and Cost-book

Systems will have to report that such systems have long ceased to be of public utility; and, therefore, that it is undesirable to attempt their revival.

I purpose in my next communication to examine the unlimited liability of cost-book companies. T. T.

#### MANAGEMENT OF MINING COMPANIES WITHIN THE STANNARIES.

SIR.—I have noticed with much interest the remarks of various correspondents on this important question. According to Mr. Polkinhorne's opinion, a mine manager and secretary should be a B.A., or some other dignified title; at all events, he should pass a primary examination in the mystery of being elected to that important office. I would wish to call Mr. Polkinhorne's attention as to how the most important offices of purser, manager, and secretary are generally filled in Cornwall by the local companies. At first starting a few individuals take a mining grant, spend their money, cut a rich lode; one is appointed purser, another manager, &c., according to their *locus standi*. Who has a greater claim? Take, for instance, South Caradon, West Caradon, Marke Valley, East Caradon, Mary Ann, Trellawny, East Basset, New Lovell, New East Lovell, with scores others I might enumerate. My idea is that a mine manager and secretary should be one who is acquainted with underground operations, and able and willing to take his regular inspections to see how matters are progressing. A man of 30 years' experience must have an extraordinary opinion of the duties of a mine purser and secretary, that they should be brought within the criminal law. Surely there are honest and respectable men to be found in Devon and Cornwall to carry out a mining company in its full integrity as well as any commercial undertaking. I would wish to remark whilst noticing this subject, that possibly Mr. Polkinhorne's cost-book may be sufficiently explicit for those conversant with the ins and outs of mining accounts. I have not, however, had an opportunity to give my opinion, as I confess myself not an expert in mine accounts as generally presented. I should wish to see a statement of monthly cost for three months, cash and credit account, assets, and all liabilities in three separate statements, with each separate balance in summary of account.

Instead of fault finding as to "who" should have the leaves and fishes, in the shape of a manager, purser, secretary, &c., it requires all the energy and assistance of mining men to bring back the halcyon days within the Stannaries. Surface riches are not yet exhausted. Nature's first fruits not yet all called. Now is the time for prospective mining; many districts in Cornwall are yet almost unexplored, and Devon may be said to be almost in its infancy, where there will, doubtless, be many profitable discoveries in 1869. GEO. EVENS.

Jan. 26.

#### CHONTALES GOLD AND SILVER MINES.

SIR.—The letter of "A Disappointed Shareholder," in last week's Journal, must greatly delight those *ursine* bipeds who are constantly looking out for what they can destroy, but the wisdom of the writer is not very easily seen. The report just issued by the directors, enclosing the report of Mr. Belt, shows that nothing whatever has occurred in relation to these mines but what is of every day occurrence in mining, and that patience and perseverance are the qualities to be called into exercise in developing mines where the management is honest, and the staff competent. It is not implied that Mr. Belt is other than an efficient officer, or that those under him are unfit for their work. It appears that there is good reason to believe that the ore is in the mines, and that the quality of the ore ground was of the best. Such a proceeding on the part of the directors "leans to virtue's side," and need not be severely commented on, especially as they are more interested in the mines than in the daily price of shares.

Your correspondent is not the only "Disappointed Shareholder," but what does he gain by rushing into print with his disappointment? He only still further tends to depress his own property before the world. The true policy for shareholders to adopt is at once to take up the remaining debentures, so that they may give to their shares a value which they can only prove by the development of the mines, and which cannot be done without capital. I hold shares which have cost me full price, and I am not prepared to give value to my shares. That is the way I hope to show my disappointment, and the only true policy is for all shareholders to do the same, so that whatever comes out of the mines shall pass into the pockets of shareholders, and not into the pockets of strangers. The royalty shareholders follow, but do not precede, the ordinary shareholders. If your correspondent holds ordinary shares, let him take up a *pro rata* amount of debentures, and I believe he will add greatly to the value of his property; but to talk about re-modelling the company is only to throw the property in the fire, a course which must be avoided at any reasonable cost.

Jan. 25.

ANOTHER SHAREHOLDER.

#### CHONTALES MINING COMPANY.

SIR.—The Chontales shareholders might greatly improve their position if they would adopt the following plan—Instead of trying to issue 15,000l. worth of debentures at a high rate of interest, which will for some time be a considerable incubus on the company, to take powers to issue 15,000 more ordinary shares, (say) at 4s. discount, the same to be offered *pro rata* to the shareholders. These would be all taken up at once, because they could be sold even now at a small premium on the amount of issue, and the effect on the shares generally would be a great rise, because the company would be in the position of having 15,000l. in hand, and returning a minimum amount of gold from the poorest class of ores, equal to 25,000l., a year, and any improvement in the ores would place the company in a rich and safe state. Immediate action is important, that the valuable services of Mr. Belt may be resumed at once at the mine. I regret that illness will prevent my attending the meeting on Tuesday.

Jan. 27.

AN INVESTOR.

#### TO THE SHAREHOLDERS IN WHEAL EMMA AND BROOKWOOD MINES.

GENTLEMEN.—In the *Mining Journal* of January 16 I addressed you, my co-shareholders, on the subject of a flagrant misrepresentation, concerning an alleged "provisional agreement" for amalgamating these mines, which had been made to the Wheal Emma shareholders, in a lithographed circular, dated the 7th inst., purporting to be issued and signed by Mr. W. G. Rogers, of 10, Queen-street, Exeter, the solicitor of the Wheal Emma Company. The circular stated that "the TERMS PROPOSED AND PROVISIONALLY AGREED TO are that the two mines shall be united, and a fresh issue be made of 6000 shares, of which 4500 shall be allotted rateably, in proportion to their present holdings, to the adventurers in Brookwood Mine, and the remaining 1500 to the shareholders in Wheal Emma Mine."

Now, we shall presently see what justification Mr. W. G. Rogers had for circulating such a statement to the shareholders of the company, whose solicitor he is; and I think all will discover pretty nearly who the immaculate party is who "instructed" him, as he says, "to communicate with the shareholders." Please to bear in mind that the circular is dated Jan. 7, 1869. On the 6th inst. a special general meeting of the shareholders in Wheal Emma was held at the Railway Hotel, Totnes (Mr. Christopher Robins, now of Machynlleth, Montgomeryshire, but formerly of Buckfastleigh, in the chair). There were also present, I believe, Mr. W. G. Rogers (the solicitor of the company), Mr. Codd (the purser), and one or two other persons, but (excepting Mr. Christopher Robins) the names of the parties who were present are carefully suppressed in the printed proceedings of the meeting forwarded to the shareholders.

Now, what took place at this meeting?—Do the printed proceedings, dated Jan. 7, 1869 (the same date as the lithographed circular), say that "terms" for amalgamation had been "PROPOSED" to the Brookwood Company, and "provisionally agreed to?" Nothing of the kind. But what do the proceedings say, bearing the signature of "Christopher Robins, Chairman?" Why the following; I quote the exact words:—"It was stated that negotiations had been commenced towards an arrangement for the amalgamation of this mine with the Brookwood Mine, but they are not sufficiently advanced to make any report. Resolved.—That this meeting be adjourned to the 23rd day of February, to be held at the Half Moon Hotel, Exeter, at 4 o'clock P.M., to give the parties an opportunity of settling the terms, and all necessary people be invited to attend. Resolved.—That the solicitor of the company be instructed to communicate with all the adventurers, so as to obtain the assent of the whole company, if possible, and to take the necessary steps to bring the negotiations to a definite conclusion."

Now, neither at that time, nor at any time since, were any negotiations whatever commenced with the Brookwood Company for amalgamating the two mines, and, of course, no terms "provisionally agreed to." And yet, on the very same day as these printed proceedings are dated (Jan. 7), Mr. W. G. Rogers (the solicitor of the company, bear in mind) issues the lithographed circular above-mentioned, setting forth that "the terms proposed and PROVISIONALLY AGREED TO are that the mines shall be united, and a fresh issue be made of 6000 shares, of which 4500 shall be allotted rateably in proportion to their present holdings, to the adventurers in Brookwood Mine, and the remaining 1500 to the shareholders in Wheal Emma Mine."

The question then arises—Who "instructed" Mr. W. G. Rogers to send out that flagrant misstatement to the Wheal Emma shareholders, in the face of the printed proceedings of the Wheal Emma meeting? He was at the special meeting, and must know. This is an important question, and one which not only the Wheal Emma and the Brookwood shareholders will require answered, but, I believe, mining shareholders in London, Liverpool, Manchester, Wales, and, in fact, the mining public generally.

Will Mr. W. G. Rogers venture to say that the special general meeting of the Wheal Emma shareholders, held on Jan. 6, "instructed" him? If any person "instructed" him, who was it? Will he venture to say that Mr. Christopher Robins, the chairman of that meeting, did not instruct him? And then comes another important question—In whose interest was that misrepresentation made? Was it in the interest of the Wheal Emma Company? Certainly not. Was it in the interest of the Brookwood Mine Company? Certainly not. Was it in the interest of the mining public? Certainly not. Was it in the interest of Mr. Christopher Robins only? That we shall know when Mr. W. G. Rogers condescends to inform us who it was that "instructed" him to communicate the misrepresentation to the shareholders. A great deal is just now being said about the prospectus issued by Orend, Gurney, and Co. (Limited), but I believe that prospectus may be favourably contrasted with the lithograph circular, to the misstatement in which I have felt it my duty to call your attention.

In conclusion, I would again say that I believe this so-called "proposal" to "amalgamate" is part of a scheme got up by one or two of the Wheal Emma shareholders to bring the two mines under the control of one man, not for the



purpose of legitimately working the mines, but of jobbing the intended new shares in London, Manchester, Liverpool, and other places. Not only mining men, but the readers generally of the *Mining Journal*, must have been astonished at seeing no explanation offered in the *Mining Journal* of Saturday last either by Mr. W. G. Rogers or his friend, Mr. Christopher Robins, respecting the attempted deception upon which they have ventured to address you. J. BERRY.

### Meetings of Public Companies.

#### AUSTRALIAN UNITED GOLD MINING COMPANY.

An extraordinary general meeting of shareholders was held at the offices, Austinfrans, yesterday, for the purpose of amending the Articles of Association, by adding the following clause thereto:—  
"Any shareholder residing out of the United Kingdom shall be bound to give an address in England to which notices may be sent, and notices shall be deemed to be properly served by being sent through the post in a prepaid letter, addressed to such shareholder, at the address so given; and any shareholder not giving such address, as before mentioned, shall lose his right of notice."

Major JELF SHARP in the chair.

Mr. J. H. MURCHISON (the London manager and secretary) read the notice convening the meeting.

The CHAIRMAN said the present alteration in the Articles of Association was rendered necessary by the encouraging fact that the parties from whom the mines were purchased had resolved to take part of the purchase money in shares, instead of cash. He might take the present opportunity of stating that all the shares had been taken up, and also of submitting the last accounts received from Mr. R. L. M. Kito, dated Dec. 7, as follows:—

"You will be as glad to learn as I am to communicate the fact of the completion of the whole of our transfers at last, the particulars of which Messrs. Vaughan, Moule, and Leddon will advise you. In the event of their neglecting to write by the outgoing mail I may state briefly that Mr. Ellis returned from the interior about three weeks since, and executed a new lease of the 'Central' ground in favour of our company on Nov. 27, for a period of 21 years, at a royalty of 6 per cent. on the proceeds of the mine and a rental of 1s. per annum. At the Duke of Cornwall Mine the works are all progressing most favourably. I mentioned in my last that as soon as I had reached a depth of 140 feet in Danks's shaft I should commence to cross-cut for the lode. I found (as I expected soon to do) that on reaching a depth of 135 feet the little engine was unequal to cope with the increased quantity of water in the shaft. So I allowed 5 feet for a well, and cut a pit at 130 feet. This pit is finished, and the end of the cross-cut therefrom is 16 feet from the shaft. I discovered on Saturday that in consequence of the drainage the water has slightly decreased since the discontinuance of sinking, so that I have resumed sinking operations, and will continue the cross-cut as well. I will not stop sinking until I am positively compelled, although it is, perhaps, going a little beyond the power of the engine in doing so. Sharp's shaft is now 108 feet deep; the ground is slightly harder; no water of any moment as yet. The cross-cut east from the old shaft, after cutting Gattie's lode at a distance of 50 feet from the shaft, is being continued, and is now 138 ft. from the shaft in beautiful ground. It continues in the same state, I trust, to be able to report the intersection of Little's lode by the next outgoing mail. All the other works are progressing as rapidly as possible. Indeed, all we want are the machinery and funds to get them into proper working order. The mines surrounding us were never yielding better, and are improving in every case as they get deeper. For instance, Hilton and party obtained several fine specimens of golden ore last week from the bottom level of their deep shaft (the deepest in the district), one of which is the most beautiful I have ever seen. It is intrinsically worth about 18l. or 20l.; indeed, Mr. Lamb offered the latter sum for it as a cabinet specimen, but the owners refused to sell it for that amount."

Having stated that the deeds of the properties had been received, he moved that the clause referred to in the notice convening the meeting be added to the Articles of Association. Mr. MACKAY seconded the proposition.

Mr. VILLESBOISNET congratulated the directors and shareholders upon the fact that the enterprise had been commenced upon a sound, commercial footing, and he hoped the shares would shortly be quoted upon the Stock Exchange.

The CHAIRMAN said that steps would be taken to effect that object.

Mr. DANKS, in reply to a question, stated that some very fine gold-producing quartz had already been raised, and it would appear that quartz was likely to be raised before they were in a position to return it.

Mr. MURCHISON said that the machinery sent out had been insured for 3500l., which was its full value. It included the machinery for the two mines.

The CHAIRMAN said he should not be surprised to hear of produce from the Central Mine even before the Duke of Cornwall Mine.

The resolution was put and carried unanimously.

A vote of thanks to the Chairman and directors concluded the proceedings.

#### BRYNSTWTH LEAD MINING COMPANY.

A general meeting of shareholders was held at the London Tavern, on Monday, pursuant to the Companies Amendment Act of 1867, Mr. JOHN OWEN, J.P., in the chair.

The CHAIRMAN explained that the present was the adjournment of the first general meeting of the company, which, according to the provisions of the Act of Parliament, was rendered obligatory within a prescribed period after the incorporation of any joint-stock enterprise. As far as he was concerned, it was difficult to divine the object of the Legislature in rendering it imperative to hold a meeting so immediately after the inception of any, and the more particularly a mining, company, in which case, under unusually favourable circumstances, but little, if any, additional information could be submitted to the shareholders; but, notwithstanding the insurmountable aim of their legislators, the directors of this company had, so to speak, endeavoured to improve the occasion by obtaining several additional opinions of accredited and reliable authorities as to the value and prospects of the extensive mineral property, whose prodigious resources were about to be developed upon a more extended scale than hitherto, and in a manner which it would appear could not very well prove unproductive of remunerative results. The directors had not obtained these additional opinions because they in any way doubted those upon whose recommendations the present company undertook the resumption of operations, but the mine itself was rapidly attaining their correctness; but because the present otherwise objectionless meeting should have, at least, some end in view, that end being to satisfy the minds of shareholders—if, indeed, that were necessary—that they had associated themselves with a property about the value and capabilities of which there was not a divided opinion. (Hear, hear.) He would content himself by thus merely alluding to the fact, leaving it to be more amply referred to by their experienced managing director, Mr. Ross, who, having personally inspected the property could fully explain the various points of operation and their respective merits. Suffice it to say that, apart from these additional opinions, there were ample grounds justifying him in congratulating the shareholders upon having secured such a property upon terms so advantageous; and it was not too much to say that, considering the very short time the company had been in operation, and the small amount of capital expended, it would be difficult, if not impossible, to find a parallel with Brynystwth. Geologically the property was most favourably situated, analogically it possessed every condition the most cynical could desire, and prospectively its value was, at least, equal to the most productive of the so-called renowned mines of Cambria's hills. Additional to the foregoing considerations, Brynystwth had facilities for an economic development of its resources seldom to be found. The mine comprised the entire area of one of a magnificent range of mountains, and at its base flowed the River Ystwith, so that the whole of the workings above the deep adit would be eventually completely drained, thus saving the expenditure otherwise necessary in the purchase, erection, and maintenance of steam-power, and at the same time affording an ever ready and comparatively inexpensive means whereby the ore as brought from the mine could be brought into a marketable condition; and he need hardly say, if the returns were to be anything like the amount expected, the value of the water from this river for crushing and dressing purposes could not be over estimated. His personal experience in managing his father's mines had taught him that what might be called surface charges was one great cause of failure, even if the property, *per se*, possessed every other condition essential to success; and it was for this reason that he had drawn special attention to the fact that while Brynystwth possessed every requisite condition for a great mine, it was also provided with abundant means whereby its capabilities could be rendered commercially valuable at a minimum of outlay. Having stated that he should be glad to afford them, for further information, he concluded by again congratulating the shareholders upon having acquired such a property upon such exceptionally favourable terms, expressing a well-grounded hope that by the application of practical skill, and the exercise of the most rigid economy compatible with efficiency, the day was not far distant when the executive would be placed in a position to offer their constituents some substantial earnest of the merits of the Brynystwth Mine. (Hear, hear.)

Mr. E. S. COMYN asked the nature of the rock, and the rate of driving the adit level?—Mr. Ross (Ross and Co.) managing director, explained that the rock was the ordinary clay-slate formation of Cardiganshire, and the rate of driving was about 3 fathoms per month. But while upon this point he might mention that, on behalf of this and other mines with which he was associated, he had been anxiously watching the result of the experiments in connection with the different boring-machines. So far as he had yet been able to ascertain no really satisfactory practical results had been attained by any; one, however, was now being tested at a slate quarry in North Wales, and if the results were satisfactory he would give further attention to the subject.

Mr. W. A. BROWN asked the means by which the dressed ore was removed from the mine?—Mr. Ross said there was a railway station within 1½ mile of the mine, but a Bill had been passed authorising a railway which would run within 5 yards of their dressing-floors. He added that there was a well-constructed tramway through the deep adit, by which the "deads" were carried into the Ystwith. It was important to notice that there was nothing to pay for surface damage.—Mr. COMYN asked the present financial condition of the company?—Mr. Ross said that at the present time there were about 1000l. in hand that is, after providing for the purchase of the property, as stated in the prospectus. The present monthly expenditure was about 100l., but it would be shortly be increased, on account of the putting up of some additional machinery. There were several tributers now at work, but he hoped soon to see 100 at work, and the shareholders would agree with him in thinking that there was ground for the hope, when he mentioned that some old miners in the locality had stated that there was no reason why 200 tributers should not be employed when the pending operations shall have been completed.

Mr. BROWN asked the price the ore realised?—Mr. Ross said that it was expected to realise 12l. 10s. per ton. The carriage to Aberystwyth would be about 10s. per ton, but they would be able to effect a considerable saving by conveying the ore to the Crosswood station.

Mr. COMYN asked if any computation had been made as to the quantity of ore that would be returned when the mine was in full working?—Mr. Ross said he did not know that any computation had been made, but, according to the testimony of miners upon the spot, there was nothing to prevent 60 tons of ore per day being returned—that is, when two levels had been opened. He wished it to be distinctly understood that this was not his statement, and that it must be accepted with reserve, because it was obvious that the result must entirely

depend upon the degree of productiveness of the lode, and that nothing but development could decide: 20 tons per day, however, would enable the directors to pay a very handsome dividend upon the paid-up capital.

The CHAIRMAN, in reply to a question, stated that Sir Thomas Bonsall, after whom the old workings were named, accumulated enormous wealth from working the upper portion of the mine, extending to a distance of something like 40 fms. from the top of the mountain. He added that some interesting facts in connection with the previous history of the mine appeared in Meyrick's "History of Wales," published in 1790.

A SHAREHOLDER asked the reason the former proprietors had disposed of the property?—The CHAIRMAN said that an enormous amount of capital had been expended in driving the deep adit level a distance of something like 300 fathoms; and it being evident that further capital must be provided to complete this and other necessary works, the proprietors agreed to dispose of the mine, upon the condition that they should retain an interest in the property, and also that sufficient capital were provided to continue the development of the property; so that, the present company, so to speak, inherited the manifold advantages of this large outlay, and thereby not only saved that amount of expenditure but, what was almost of equal importance in mining, a considerable saving of time.

Mr. ROSS said, if no other questions were to be asked, he would proceed to refer to the additional reports which had been alluded to by the Chairman. He thought it but right to state that these opinions had not been solicited because there existed any doubt whatever as to the correctness of the authorities who reported upon the mine at the formation of the company, but, as the Chairman had applied remarks, on an occasion which must otherwise have passed away without any object having been attained, although the provisions of the Companies Amendment Act were legally complied with. The first report to which he would direct the attention of the meeting was that of Capt. John Kito, whose name as an authority upon lead mines was well known. The mine, Capt. Kito says, is situated on the banks of the River Ystwith, which forms the south boundary of the set, and affords at all seasons of the year an ample supply of water for all mining purposes, thereby avoiding the necessity of having recourse to steam power, even at the most advanced stage of development. The section under the management of Messrs. John Taylor and Sons, are in the immediate locality, the productiveness of these mines is so well known as to require no comment. The mountain, which is traversed by the main lodes of this mine, rises to an immense height, he should say not less than 150 fathoms from its base, and the matrix of the lodes, together with the rock in which they are embedded (being the clay-slate formation) is identical in every particular with that found in the leading mines of the district. After having described the extent of the operations, Captain John Kito, referring to the lode recently cut, states that about 300 fms. and in its course three lodes have been intersected. The third was intersected last week, and is, of course, close upon the present forecast. There is some little difference of opinion in reference to this lode, as, according to the drillings, there are still about 8 fms. further to drive to its intersection. It is from 2 to 3 ft. wide, of a promising character, and contains a little lead ore, and as soon as it has been proved that there is no more lode northward he would recommend two ends being driven, one east and the other west on its course, by a full force of men, and he has little or no doubt that good bunches of ore will be met with, and that the results obtained will be very satisfactory.

From which, it is said, a large quantity of ore has been raised, but these shafts being full of water he could not examine the workings. The machinery is in good condition, and consists of a water-wheel, crushing-wheel, jiggling-machines, two round buddles, a flat buddle, strakes, dolly-tubs, &c., all of which can be set in operation in a few days, and capable of returning a large quantity of ore. Although (continued Mr. Ross) it might be regarded as somewhat presumptuous on his part to differ from Capt. Kito with respect to the north lode, yet it appeared to him that had it been cut the water would have been let down from the upper shafts; certain it was that water had not been let down, and it was equally apparent that the lode had not been cut. Kito doubted whether or not the lode itself had been cut. Capt. Kemp, manager of the successful Bronfroyd Mine, who had had a considerable experience in the mines in the district, was of opinion that it was not the north lode, although (Captain Kemp says), from its favourable character, being composed of a light blue stone, intermixed with spar and a little lead and copper, should be opened upon, more particularly in the eastern direction. Captain Kemp adds that "the object of the deep adit level is to reach and cross-cut a lode which has been opened from surface, and a shaft sunk thereupon 15 fathoms by former owners, and the north lode is my opinion, and the lode referred to as crossed by the extension of the deep adit, is not the lode in question, and I think that the said lode should still be continued northwards. Of course, with a shaft full of water it is impossible to tell the exact underlie of the lode as if proved from the surface; but with a piece of ground having the advantage of such extensive backs—there being quite 80 fms. perpendicular between the two points—it would seem to be unwise to stop short in the trial you have resumed by this adit, and I, therefore, strongly recommend its continuance. You will remember that the dip of the north lode is also north, and when you consider that there is intermediate ground between the bottom of the shaft and where the lode may be intersected by the workings in the said deep adit, an increase of a few inches per fathom in the dip underlie would necessarily carry the lode (in depth) some fathoms north of the present forecast of such adit." Capt. Kemp, referring to another portion of the mine, says—"That on the other side of the deep adit, and in a level driven east therefrom on the south lode, a rise has been opened at a point about 60 fathoms east from the adit, and has gone up about 14 fathoms. This rise exposed some good ore, and the discovery is worthy further prosecution. To this end I think the rise should be carried up to the level above, known as the 'long drift,' and after the communication is made between the workings in the said rise and the deep adit, you will have every facility for extending eastward under what is now known as 'Ellis's workings.' You are aware that these last-named workings proved to be very rich in ore in days gone by; furthermore, the ground east and west of the rise may then be worked away to great advantage." Captain Kemp concludes his report by expressing his belief that "with full exploration the mine is calculated to make profitable returns; for, assuming that the reputed value of Ellis's workings is justified by the facts, and looking to the value of the north lode exposed from surface to the bottom of the shaft, it appears to me unreasonable to suppose that the lodes are productive only down to those points respectively." Capt. H. James, of Redruth, who was admitted to be an authority, referring to the branch of ore met with in the adit, said that "at or near the end of the long cross adit north, which is about 100 fathoms to the north of the south lode, two branches have been met with, and only 2 or 3 ft. apart; the first branch was only 3 or 4 in. wide, of soft killas, and the second branch, on the eastern side of the cross-cut, was 8 in. wide, containing good stones of lead and white spar; these branches are very nearly perpendicular, therefore I think it is very possible that these are parts belonging to the north lode, and if so, they will be of great value. There appears, according to some drillings, and according to calculations, now about 7 fathoms more to drive north to intersect the lode, but from the fact of these branches being found nearly perpendicular, it is just possible it may be the lode came down much more upright than they expected, notwithstanding the cross-cut is to be continued on for the 7 fathoms before they open on these branches. The workings (continues Capt. James) on the top of the mountain, on the north lode, consist of a shaft sunk on its course 15 fathoms, which is now full of water. Mr. Atwood and Capt. Tregoning informed me that there was a good lode in the bottom of the shaft, and that they were about to suspend operations in consequence of the wet season. The shaft should be sunk again as soon as the water will admit, both for the purpose of opening out lead ground and for ventilating the adit level." (He Mr. Ross) had thought it better thus to point out the disparity of opinion existing among these "practicals." In order to draw the attention of the shareholders to this (at present) most interesting point of development. He did not think it necessary upon this occasion to trouble the meeting with any further reference to the other operations, each of which had its special interest, but would content himself by echoing the hopes of the Chairman—that the day was not distant when the shareholders would receive a substantial guarantee of the value of their property. (Hear, hear.)

The shareholders having expressed themselves thoroughly satisfied with the explanations afforded, as also with the prospects of the mine, a vote of thanks was passed to the Chairman and directors.—The CHAIRMAN having appropriately acknowledged the vote, said that the aim and object of the directors was identical with that of the shareholders, and that was the remunerative success of the mine. The directors were co-partners, but they were also trustees, and as such they had duties to perform, and they were bound to do so with satisfaction to the shareholders. As the next general meeting would be held about July, he thought it would be most desirable that it should be held on the mine, so as to afford all associated with the enterprise an opportunity of examining the property, and forming their own opinion as to its merits. (Hear.) He could not allow the meeting to conclude without drawing attention to the fact that they had been fortunate enough to secure the services and active co-operation of Mr. G. Ross (of Messrs. Ross and Co.), the value of whose zeal and efficiency on behalf of the company's interests could be too highly appreciated. In Mr. Ross there was combined the keen man of business and, at the same time, all those qualities inseparable from an English gentleman. (Hear, hear.) He concluded by proposing that the best thanks of the shareholders be accorded to Mr. Ross, the managing director of the Brynystwth Mine.

Rev. Mr. McDUGALL had much pleasure in seconding the proposition. He thoroughly enjoyed in what had fallen from the Chairman as to the business-like tact and ability displayed by Mr. Ross, and as to the great courtesy with which he received the shareholders, and afforded them every information they sought. He felt assured that every shareholder in the company would heartily join in voting to Mr. Ross their most cordial thanks.

The resolution was put, and carried unanimously.

Mr. ROSS acknowledged the vote.—The proceedings then terminated.

#### NORTH DOWNS MINING COMPANY.

The four-monthly general meeting of shareholders was held at the company's office, Crosby House, 95, Bishopsgate-street, on Monday, Mr. H. MILFORD in the chair.

Mr. W. WARD (the secretary) read the notice convening the meeting, and the minutes of the last, which were confirmed.

The statement of accounts for the four months ending December last showed a debit balance of 658l. 14s. 6d.

The agents' report was read, as follows:—

Jan. 23.—We beg to submit to you our report of this mine, which contains the prospects, the objects we have in view, and the mode we are pursuing to accomplish them. The 85 is driven west of King's shaft by six men; in this end the ground has recently undergone a considerable change for the better, and although we cannot value the lode, nor do we expect to until we approach the first shoot of ore, which will take us some little time, yet we are pleased with its appearance, the lode being large. We are driving the 60 on a portion of the lode which was standing south, and which is mentioned in our various reports as from the point of a horse; the lode is large, with a very good appearance. In the 60, on the south lode, there is also a better appearance, and, at the same time, forward to a change in the lode when we reach the elvan, which was parallel to our best lode of ore. In the 40, west of King's shaft, we are cross-cutting south, believing that a portion of the lode is standing in that direction. We have a rise which we hope to communicate next week from the 50 to the 40; this will ventilate this part of the mine, and as a great deal of ore has been risen above this level (40), we shall continue this rise on speculation, which can be done for much less expense than resuming the 30, as we shall have to drive a

considerable distance before reaching any ore ground which we have seen below. In order to expedite the workings we have fixed a rod from the engine in the 60 and done the necessary work, as well as commenced a sump-wine in the bottom of the 60; the wine is down 2 fms., and the lode has a splendid appearance, and worth fully 40l. per fms. Our object in doing this is that this shoot of ore is in advance of the 85 and about 60 fms. and when this wine is sunk 10 fms. will enable us to drive east and west, so as to make a 70 fm. level with as little delay as possible. We think it right, however, to say, fearing it may mislead anyone as to the expense of sinking, in consequence of the wine being called a sump-wine, that the cost for sinking 10 ft. long is only 10l. per fm. We have eight pitches working, varying in tribute from 5s. to 10s. in 1l. Our stops are much the same. We shall sample on Wednesday next not less than 65 tons of adventurers' ore, but we cannot say the exact quantity we shall have of tributers' ore, as it is not all yet at surface. In conclusion, it cannot but be seen that the course of ore in the sump-wine fully justifies us in the step we have taken, and as it is my opinion that in mining time is money, and, therefore, the sooner a person sees the object (if worth pursuing) the better it will be. This mine if carried out on the usual principle will soon, I think, take its former position, and to prove we are developing the property with spirit (irrespective of tribute) we have opened since the last meeting 100 fms. 3 ft. of ground.—F. PRYOR, J. WILLIAMS.

The SECRETARY in reply to a shareholder, stated that the accounts just presented included the December cost, but not the ores raised during that month, amounting to about 110 tons; the mine cost averages 500l. per month.

The CHAIRMAN, in moving the adoption of the accounts and report, said that when he last had the pleasure of meeting the shareholders, four months since, the committee had occasion to congratulate them, as well as themselves, on having brought the mine from a slough of despond to at least a state of hopefulness; there had, however, been the continued fall in the standard, the result of which was a loss on the four months' working of 430l. Had the standard advanced one month since, the same as it did last week, the balance against the mine would have been altered by 380l. It was very unpleasant to tell them that a loss had been made, but such was the case, and from no fault of their own. The mine was looking very well, and the committee had every reason to be satisfied with their new agent, who seemed to be thoroughly acquainted with the duties of his position. If the standard for copper ore continued about the same as now for the next six months they would be working at a profit. With respect to the shares unsold, the committee were simply trustees for the shareholders, and would most gladly act in any manner they (the shareholders) might think fit, either by allotting them *pro rata* among the shareholders—and he (the Chairman) would, for one, be most happy to take his proportion—or offering them to the public; but previous to any steps being taken in the matter, he would state that it had just come to the knowledge of the committee that the largest shareholder in the mine was at the present time in negotiation with some parties respecting those shares and the Peever part of the set; and, therefore, he thought that it would be advisable to adjourn the present meeting for a fortnight or three weeks, by which time, no doubt, the negotiations would be completed, and they would have a tangible proposition to submit to the meeting.

Mr. MCALLAN asked what would be the amount of call required to meet the debit balance?—Mr. WARD said 3s. per share, but none was needed to-day, as they had the December ore in hand not credited, and the negotiations for the Peever set might result in their having considerable funds in hand.

The accounts and report were received and adopted, and, on the motion of the Chairman, the meeting was adjourned to February 16, when, after the ordinary business had been completed, it would be made special, to consider a resolution or resolutions respecting the unsold shares and the Peever part of the set.

In responding to a vote of thanks, the Chairman said he was sure that he might, on behalf of his fellow-committeemen, assure them that everything was being done that could be to ensure the ultimate success of the mine.

#### CHONTALES GOLD AND SILVER MINING COMPANY.

A special general meeting of shareholders will be held on Tuesday. The report of the directors, to be submitted, states that they regret the estimates of produce in Mr. Belt's report of Sept. 5 have not been realised in consequence of which the additional capital already raised is now declared to be insufficient; at the same time the confidence of the directors in Mr. Belt is unabated, and they believe with him that, provided the funds now asked for be obtained, there is a fair prospect of ultimate success. Mr. Belt's original agreement with the company was for one year only, but he some time ago offered to renew his engagement, and has only now returned to England, with a view of making arrangements for taking permanent charge of the mines. The directors think it right to impress upon the shareholders that unless additional capital be immediately provided, it will be impossible to continue the working of the mines, and they, therefore, appeal to the shareholders to take up the remaining 15,000l. debentures, of which the issue has been authorised.

The report of Mr. Belt states that in his report, under date Sept. 5, he submitted a description of the various mines belonging to the company, and ventured to make an estimate of the probable yield during the ensuing 12 months. During the first two months this estimate was fully sustained; but since then in consequence of encountering poorer bars of ground in the main adit levels, there has been a great falling off in the yield of gold. Though the expectations expressed in his September report have not yet been realised, he is still of opinion that extended explorations will prove successful, and that the company ought to persevere in their adventure. The present position is simply due to the fact that the old stopping ground has been exhausted before the main levels have opened out new supplies. These main levels were commenced as soon as he received intelligence that new capital would be supplied; and it has so happened in the limited extent driven, that they have not yet cut profitable ore. Their total length at the end of November was 52 fms., whilst they possess 1480 fms. in length on the Consuelo lode alone, on which they are driven. Only 1-28th part of this one lode has, therefore, been explored by them. There is now machinery erected sufficient for the reduction of 2000 tons of ore per month. The mines are opened out to supply that quantity, and the tramways completed to take it to the reduction works. All the work of construction recommended in this report being finished, they are in a position greatly to reduce the expenditure at the mines, and before he left he took steps to effect this object. He considers it may be brought down to 1500l. per month, which will be covered by a yield of only 5½ dwts. per ton on 2000 tons per month. To complete the explorations in progress, and to bring the mines into full working order, a further sum of 10,000l. will be required; and, should this amount be supplied, he shall be happy to resume his position at the mines, and to do his utmost to bring them into a profitable condition.

#### MINING IN AUSTRALASIA—MONTHLY SUMMARY.

MELBOURNE, DEC. 8.—An important new gold field has been recently discovered at Spring Creek, in the M'Yor district in this colony. There is already a population of over 6000 on the spot and in the neighbourhood, and the number is rapidly increasing. A township is about to be proclaimed there and the streets are already laid out by the surveyors. The latest reports inform us that three miles of ground are being worked, and a much larger quantity is being "prospected." Most of the miners are doing well, some of them making from 1 oz. to 3 ozs. to the lode of wash dirt, from a sinking of from 55 feet to 64 feet, "through cement, 35 feet of gravel, and a lighter sandy drift." The field is described as "a good poor man's diggings"—i.e., not requiring the aid of large capitalists, and as "likely to afford remunerative employment to a considerable population for many years." Another new rich mine has been discovered. The almost daily "finds" of large nuggets here has been a leading topic in the local journals for the last month. Several of the larger have varied in weight from 10 ozs. to 17 lbs., and one lump unearthed at Gilmore's Gully weighed 42 lbs. The simultaneous occurrence of these two large rushes is somewhat unfortunate for the farmers, who are just now harvesting and who find great difficulty in getting hands at any reasonable rate of wages.

ADELAIDE, DEC. 8.—Trade has shown many signs of improvement during the past month, owing partly to the satisfactory state of the wheat crops, combined with the continuing yield of the gold diggings, and a considerable business has been done. Few complaints of the appearance of real-estate have been reported, and the new crop is coming in hand in prime condition, and of excellent quality. A shipment of copper ore has gone forward to India. Discoveries of ore of great richness are spoken of on the Mooma property. The news from the gold fields this month is not very important, many of the hands have been drawn off by harvesting operations. Reefing is being carried on with spirit at Barossa and Jupiter Creek. The field opened at Yatta Creek, Barossa, is a very extensive one. The acting governor and several of the ministers have visited the ground.—Silver and Co.'s Circular.

#### AUSTRALIAN MINES.

YUDANAMUTANA COPPER.—The directors have advices from the superintendent, dated Adelaide, Dec. 9:—"The north mail not being due until two hours hence, our latest dates are, therefore, the 30th ult. from Blinman, at which date the completing of the cost-sheet for that month had not been commenced. I intend visiting the mine next week, and leave Adelaide on Friday. My visiting report will accompany the annual return, to be forwarded next mail. By extract from the *Register* of this morning, you will see that Mr. Fuller tender for the construction of a railway northwards has been accepted, and that there is now every probability of the long-hoped-for line being commenced." The captain (Dem. reports) "There is plenty of water to work with, and a rich lode of 12 to 15 miles. Ore raised during the month, 466 tons; ore smelted, 366 tons; copper made, 37 tons; copper dispatched to Port Augusta, 35 tons 7 cwt. 3 qrs. copper on hand, 1 ton 12 cwt. 1 qr.; copper ore on hand, 100 tons, say 15 per cent. The mine is looking very rich, and everything going on satisfactorily. I am sorry to report so large a falling off in our make of copper this month, but pleased to say that it is not on account of shortness of ore, for the mine is looking as rich now as ever it did; but it is owing entirely to the falling off in the supply of dry wood. Many of the teamsters are carting wool; this pays them better than carting wood."

WORTHING, DEC. 8: I am glad to be able to say, so far as the prospects of the mine are concerned, that we are looking better than we have for some months past going north. Also, we have done better at the engine-shaft, although we have had only nine men instead of twelve. We have sunk 8 ft. 10 in. of ground. The 83, north end, is greatly improved, especially towards the end of the month; the lode is 4 ft. wide, and will yield 3 tons of ore to the fathom; it continues very wet, but much easier for driving; the present price is 6l. 10s. per fathom. We have commenced to rise in back of the 83, against the wine in the bottom of the 83, for air. Here we have 30 fms. of ground to hole through. We have a good lode in the rise, and also in the wine, so that it is in every way likely it will continue all the way through. If so, we can drive our 63 and 73 from the rise, and escape the hard ground that has been between us and the shaft. We hope to hole through in about two months from this time. The 63 and 73 shafts are without improvement. The stopes throughout the mine are about the same as in months past, except what has been taken away. Copper shipped, 13½ tons; ore on hand, 79 tons, of 9 per cent.; and regulus 36 tons, of 50 per cent.

PORT PHILLIP AND COLONIAL GOLD.—The quantity of quartz crushed during the four weeks of November was 5286 tons, yielding 1907 ozs., an average of 7 dwts. 6 grs. per ton. Receipts, 1066l. 12s. 4d.; payments (including the sum of 433l. 12s. paid on account of firewood and timber contracts) 4298l. 6s. 1d.—profit, 2758l. 7s. 3d.; added to which was balance brought forward



from last month of 1896. 15s. 7d. thereby showing an available balance of 46871. 2s. 10d. The amount divided between the two companies was 25001. the Port Phillip Company's proportion being 12501. The balance of 21371. 2s. 10d. was carried forward towards meeting payment of firewood and timber contracts for the current season. The return for the first three weeks of December was—quartz crushed 3868 tons; pyrites treated, 76½ tons. Total gold obtained, 1678 ozs. 1 dwt.; average per ton, 8 dwts. 16 grs. Remittance, 18001.

**SCOTTISH AUSTRALIAN.**—The sales of coal from Lambton Colliery for the month of November amounted to 12,479 tons.

**ENGLISH AND AUSTRALIAN COPPER.**—Adelaide, Dec. 9: All the operations of the company were progressing satisfactorily, and since the date of last advices a further shipment of 69 tons of copper had been made, in addition to the 200 tons then in course of shipment.

# The Royal School of Mines, Jermyn Street.

## MR. WARINGTON SMYTH'S LECTURES.

[FROM NOTES BY OUR OWN REPORTER.]

**LECTURE XX.**—We have now occupied some time with the subjects of the various methods of breaking away the rock, and cutting our passage through the ground, which naturally takes up a large portion of the cost of mining. It is, therefore, one of the divisions of a miner's duty, if the work is to be carried on with a due economy, to which great attention must be paid. We have seen in many cases that it is impossible to advance except at a very slow rate, even with the improvements of modern times and the employment of explosives, by which, no doubt, greater speed has been attained. In ordinary cases, however, we must be content to travel at a very slow rate of speed. This brings us to the modes in which the men have to be paid. As much expense is incurred in providing manual labour, it is necessary that the workmen should be paid so as to induce them to exert and exercise the greatest amount of industry, skill, and care, or otherwise we may get bad and idle men, and not obtain a proportionate amount of work done for the money expended. If I first point out the different grades of workmen, it will be seen at once how large a proportion are paid wages dependent on the amount of work they do in a given time. If we compare the case of metalliferous mines with that of coal mines, we shall find with respect to the character of the employment, and the nature of the departments, that there is much which may be said to be parallel, although, of course, there are some points of work peculiar to each. If we take what is done in a large North Country colliery and a large metalliferous mine in Devonshire, we shall obtain a tabular view of the following kind:—

COLLIERIES.		METALLIFEROUS MINES.	
Chief viewer .....	corresponds with ..	Inspecting captain and manager.	
Resident or under viewer ..	"	Chief resident captain and sub-captains; grass captain, who has charge of surface arrangements.	
Deputy overmen .....	nearly parallel with	Pitmen or shaftmen.	
Waste men—whose duties are most important in fiery mines .....	"	Timbermen—who put up the supports to the roof and sides.	
Fireman—his duty is to go round to all the workings before the men, to see that all is safe .....	"	No equivalent.	
Hewers—the actual workers ..	"	Tributers and tutworkmen.	
Putters and drivers .....	"	Trammers.	
On-setters or hangers-on .....	"	Fillers.	
Doorkeepers or trappers .....	"	Not needed.	
At the surface—			
Banksmen .....	"	Landers.	
Screeners .....	"	Dressers.	
Smiths and carpenters .....	"	Smiths and carpenters.	
Enginemen .....	"	Enginemen.	

With regard to the respective merits of payment by the day or by the job, it must be remembered that in metalliferous mines especially we have to deal with men who have to work in remote and solitary places, where they can be visited, probably, no more than once a day, and no supervision kept over them as to whether they are earning their wages. In such cases it is evidently a better and more satisfactory plan to pay by the work done. That mode of payment, however, is much objected to in certain districts, but wherever it is once tried they never return to the payment by the day. There are various modifications of the principle, however; as, for instance, in Wicklow, where men are paid by the day, but the day's work is fixed—that is to say, each man is paid for sinking two bore-holes per day; and if the holes are bored in judicious directions, that plan may do very well. When men, however, are dishonest, and even when they would resent warmly a charge of dishonesty, they often think they have a right to cheat the overlookers if they can, and so they have been known to arrange the bore-holes so as to fire without any effect beyond a loud report, and charge their pipes, and sit down to enjoy themselves, until after a time they put in a proper plan, and fire again, so as to bring down the rock, and the reports having been heard, they claim to have bored their stipulated two holes. Even with such a plan, therefore, as that in Wicklow it cannot be satisfactory, unless worked under a proper inspection. If, however, we look at the plan of a mine, we see that it may be necessary to employ many men by the day. Thus the work of supervision must be so remunerated; and in like manner the timber-man, as there are no means of judging by the piece what he has done, as he must inspect many places, and judge whether or not anything should be done, and if so, how much. There should, however, be some sort of supervision over these classes of workmen, as indeed all other classes, or large sums may be soon squandered in a large mine without any adequate results. Selfishness is common to human nature, and very few people like to work hard when they can take things quietly, and, therefore, as a general rule, it is better to pay by the quantity of work done. With regard to smiths, it may be arranged for them to sharpen so many picks, or so many borers, for their day's work, and it is found that in that case they work with a better will. There is one difficulty about the plan of paying by the piece, which is that it is less frequently adopted, and that the necessity that sometimes arises for calling up the men to work at the engine or the pumps. When small mines are situated in remote places, as, for instance, out on the moors of Cumberland, or the hills of Flintshire, the whole working is let out to the workmen, singly or in parties, allowing them to take a percentage of what is raised. This is objectionable, because the men are, as it were, left to their own devices with respect to their mode of working, and if they are only paid at long intervals their fair proportion of the work done they are apt to be careless, and work with a good deal of irregularity. I may also remark that the plan of boring so many holes a day where the supervision is sufficient is somewhat demoralising process, as it no longer leaves anything to the good feeling of the men, but trusts only to the testing of the hole by the overlooker. It is, however, the plan most in use in quarries, and the men do not appear to think that it savours of distrust, and the placing of the bore-hole is not left to individual quarriesmen, as it is in metalliferous mines to the workmen there. The great bulk of the work done in metalliferous mines, whether advancing the shafts and levels, or upon the lode, is at so much per fathom or yard of the ground excavated. This is called "tutwork," derived from the German "tut," to do, or to work, of a mine. It is in driving narrow excavations, and sinking shafts, a work which is necessarily costly because of the small space in which the men work, or in driving an adit, that the work acquires this name. In metalliferous mines a great deal of ground must be gone through, whether it contains ore or not, and it must be paid for according to the length of ground the men get out in a certain time. And so in collieries, the usual rule is the same in sinking the shafts and driving exploratory levels, more or less in advance of the others. In collieries levels of this kind may be regarded as simply preparatory to laying out the mineral as it is to be worked afterwards, and this, therefore, desirable so to manage as to make it practicable to do away with tutwork. And for several reasons—one is, that supposing the work is in a coal field, the mineral removed in driving a narrow preparatory drift is too small to be profitable for sale. Again, it will probably cost 12s. per fathom, whereas getting the coal by the usual mining operations will but cost 3s. These very same reasons make it desirable that the levels should not occur at intervals shorter than 10 fathoms from one another. In metalliferous mines, in spite of all the difficulties which may arise here and there from peculiarities of the ground, and the alternate richness and poverty of the vein, exploratory drivings must always be carried on, and as the ground is very different to the homogenous masses of a coal seam, the levels are smaller, and the price for driving varies very much. In metalliferous mines the judgment and experience of the manager and engineer are constantly called into play in determining what is the just and right amount as between man and master to pay for the work, and those who are placed in such positions will find the advantage of having previously devoted considerable time and attention to the acquirement of a knowledge of the use of implements, whether the work is done by the pick or by blasting. These bargains are made from month to month, as if a longer time passes without a revision of the terms, from the changes which occur in the nature of the ground those terms may become unfair on the one side or the other. If the ground, for instance, becomes much easier the men may make wages too easily, and the money required for them may not be consistent with the economy of the mine, or they may idle away a great deal of time. There are several considerations which will have to be taken into account in making bargains with the men.

- 1.—The size of the excavation, which, as it may be larger or smaller will vary the price paid. The medium size of a level may be put at 6 or 7 ft. high and 4 ft. wide; if it should go beyond those dimensions the enlarged space will make a serious difference, and if below it will not be economical to attempt to use gunpowder.
  - 2.—The actual hardness of the rock.
  - 3.—Its jointiness, and whether it is vuggy, or cavernous.
  - 4.—Whether it is wet or dry, as it will not unfrequently happens that the miner has to work in places streaming with water, which is not only inconvenient and unhealthy, but makes the progress very slow.
  - 5.—The price of living in the district—a matter of considerable importance also in new countries, where prices may be at an exceptional dearth.
  - 6.—The depth from the surface and the state of ventilation which, if it be in a good state, the men do better work, with the same amount of labour.
  - 7.—The nearness or remoteness of the miners' dwellings, as those who have far to come cannot be expected to do so much work as those who are close at hand.
  - 8.—And, lastly.—The distance the material has to be conveyed, and whether the transport is included in the bargain.
- There are other matters to be taken into consideration as affecting the expenses of mining, which can be influenced by careful arrangements and good management. For instance, in sinking a shaft it is not infrequently the case that there is great saving in keeping it always at work. It is not probable that more than three men can work at a time, and, therefore, it will be well to have three sets of men and three shifts of eight hours each. The same thing applies in driving levels, where rapidity is an object, and similar shifts may be arranged. There are many varieties of tutwork in metalliferous mines, and special

bargains are required for each variety. These bargains are always made for a fixed time, which should not be too long; but the men may generally be trusted that justice is done them. Sometimes a man will take a job by the lump, and employ his own assistants. In this case they depend on their knowledge of the nature of the ground, and the chance of meeting with soft or easy portions, which will increase their profits. The very uncertainty which attends the work seems to give it attraction in the eyes of the men. Thus a party of men may have arranged to be paid 9s., and after driving a little way will find the ground become so much softer that it might have been taken advantageously at 6s. In such cases the men either take it quietly for the rest of their time, gaining mere ordinary wages, or they work vigorously and make a deal of money. But the ground is also subject to go against them, and then they have to work very hard, and are very much pushed to "make wages," as a fair earning is called. They, however, go cheerfully on, trusting that the agent, finding that the ground is really so much worse than was anticipated, will make it right in the next month by giving them some advantage. A great deal of probability of "making wages" being thus in the workmen's own hands, they look very narrowly, and with great care, to the physical conditions presented by the mine, and consider all the probabilities likely to come into play during the time for which the bargain is made. It is often a good plan in sinking a winze to let the men have it a lump bargain, at such a price, as in Hungary and elsewhere, with the condition that if the work be done before a certain time they will also receive a bonus; but if not, that they shall lose so much of the payment otherwise due to them. Of course, in such cases the nature of the ground ought to be pretty well known. In another sort of bargain the payment is made according to the weight of the ground which is worked, a method suitable where all the mineral is useful, as in seams of coal. In metalliferous veins, where a great quantity of material is useless, the system is not often applicable; where it is fairly applicable it is usual to have weighing-machines; and although it is sometimes the practice to take a tram or a wagon each to weigh so much, it is better to have the weighing-machine so arranged that each may be run at landing over the plate, and thus in a rapid manner to weigh every one. Also, if the men be numerous, it is not unreasonable that they should nominate a check-weigher, or, as he is called, a "justice man," to stand there and see that everything is fairly put down. On the other hand, the man who weighs for the owner should be careful to see that the wagons are duly filled, and with proper coal, as the colliers are very fond of shovelling in a quantity of slack, or dirt, in which case it would be his duty to reject the wagons so misfilled.

In cases where the valuable metal is disseminated through a large vein, the system of tutwork is much used, but it takes the form of what is called "tribute," that is, giving the men a certain sum for every pounds worth of ore raised. This system requires much care and watchfulness on the part of the mining engineer. If the men are not well looked after, they are apt to follow the richer parts, and not take out a fair proportion of that which is less rich, and the levels are often driven with much irregularity. This system also taxes the judgment and observation of both the men and the managers. Supposing, for instance, the miners agree to drive a level in ground of this kind of certain dimensions, at, we will say, 10s. in 100 on the value of the ore raised, which may be a fair price; but they may come upon a nest or course of ore, or a much richer part, so that at 8s. they would make realise 50s. or 100s. in a very short time. In such cases the men speculate upon finding the nest, and when they discover the richer parts, in their judgment, lead to riches, they are apt to conceal their discovery, and so reap the benefit in the next bargain they make. Managers must also be upon their guard against their complaints of the mine getting very poor, which are often only intended to mask concealments of this kind, and so by a little shrewdly judiciously plastered on a promising spot, or by heaping up the rubbish, so as to conceal favourable appearances, the miners get the advantage.

## FOREIGN MINES.

**ANGLO-ARGENTINE.**—A circular has been issued by the Chairman (Mr. Henry Hayman) embodying the original report on the gold fields, received from Major Rickard, extracts from Mr. Barnard's letter, Capt. Vivian's report, and copy of Mr. F. Claude's assays. Major Rickard, in his report, basing his calculations upon only 10s. of gold to the ton, estimates the profit at 39,1901. The assays, however, show a much larger percentage, and it must be remembered from ore left by the old miners as not worth working. Capt. Vivian was selected by Capt. Treloar, and his report may, therefore, be relied on. Capt. Vivian's report states that he has been connected more or less with mines in various parts of the world for nearly forty years, during which time he has had the opportunity of examining upon different localities and stratifications with the characteristics peculiar to gold, therefore he is giving his opinion from practical observations, and urges a vigorous development of the important points described. Mr. Barnard, in his letter of Nov. 20, states that there are some thousands of tons of desoments at the mouth of the mines and in the workings, most of which show traces of gold on the shovel, but whether the quantity amounts to 5000 tons or 15,000 tons, or more, it is impossible to say, as it cannot be measured where it lies, and Capt. Vivian considers it all "fit for the stamps." As regards the non-scientific part, I can fully confirm Capt. Vivian's report.

**IMPERIAL SILVER QUARRIES.**—L. Chalmers, Dec. 25: Seven feet three inches of tunnel were made last week. Friday being Christmas Day, the foreman was the only one who worked—laying track, &c.

[The secretary is of opinion that a letter, reporting the work done between Dec. 14 and 21, has miscarried.]

**MARQUITA.**—Jan. 29: Santa Ana Mines: Mr. Treffry writes, under date of Dec. 19:—Ore drawn since the last instant, 515 skips, or 262½ tons rough ore. The actual yield of the ore we have treated this month, as near as can be made out, is 28 ozs. of silver, or 97 ozs. of gold, which is equal to the assay contents of the September, and higher than the assay of the October, returns. The addition of some ore from Thomas's lode has aided somewhat to this result, but there is no doubt a decided improvement of the lode has taken place, and will be laid developing. Mine: Very rich stones of grey silver ore and galena are coming from the sink below the 130 fathom level, also very rich stones of red and grey ores are coming from the 120 fathom level bottom stopes, as we have got into the rich branch from which I expected some ore in the beginning of the year. Thus we have rich proper silver ores at every point at which we are working, and all abundant quantities. 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## WATSON BROTHERS' MINING CIRCULAR

WATSON BROTHERS,  
MINING AGENTS, STOCK AND SHARE DEALERS, &c.  
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

**MESSRS. WATSON BROTHERS** return their most sincere thanks for the great patronage bestowed and confidence reposed in their firm for 25 years, and to assure their friends and clients it will be their earnest endeavour to merit a continuance of both.

Messrs. WATSON BROTHERS have made arrangements for continuing their weekly Circular, which has had a large circulation for many years, to the columns of the *Mining Journal*, their special reports and remarks upon mines and mining, and state of the sharemarket, will in future appear in this column.

In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1845, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share dealing than there is at present; and, from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services to all connected with mine or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON BROTHERS transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON BROTHERS also inform their clients and the public that they transact business in the public funds, railway, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON BROTHERS are also duly asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommendations to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts; but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON BROTHERS having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge for commission.

**SATURDAY.**—The market continues very dull, and scarcely any business doing. West Seton, 205 to 215; Great Laxey, 18½ to 19½; West Chiverton, 58 to 60; Prince of Wales, 22½ to 24½; Don Pedro, 4¼ to 4½; Taquaril, 13½ to 15½.

**MONDAY.**—Market very dull, and prices chiefly nominal. Chontales declined to 17s. 6d., 22s. 6d.; Drake Walls, 17s. 6d.; East Grenville, 3½ to 3¾; New Lovell, 2½ to 2¾; Taquaril, 13½ to 15½; Prince of Wales, 22½ to 24½; West Frances, 40 to 41; West Seton, 205 to 215; Wheel Grenville, 31s. to 33s.; Yudanumutau, 2 to 2½.

**TUESDAY.**—Good demand to-day for New Lovell, Great North Laxey, West Seton, Great Laxey, and Marke Valley. East Caradons are weaker; New Lovell, 2½ to 3; Great North Laxey, 22s. 6d. to 27s. 6d.; West Seton, 210 to 220; Great Laxey, 20 to 21; Marke Valley, 9½ to 10½; Prince of Wales, 21s. to 23s.; West Chiverton, 56 to 58; Chiverton, 3 to 3½; East Caradon, 9 to 9½; Don Pedro, 4 to 4½; Taquaril, 13½ to 15½; Chontales, 17s. 6d. to 22s. 6d.

**WEDNESDAY.**—The market is moderately active. New Lovell is in good demand at an advance. Chontales receded to 20s., sellers; New Lovell, 3 to 3½; Great Vor, 10½ to 11½; West Frances, 39 to 41; Seton, 7½ to 8½; Uny, 3½ to 3¾; Prince of Wales, 20s. to 22s. 6d.; North Treskerby, 18s. to 20s.; Drake Walls, 17s. to 19s.; West Chiverton, 55 to 57½; Chontales, 15s. to 20s.; Don Pedro, 4 to 4½; Taquaril, 13s. to 15s.

**THURSDAY.**—Good demand for New Lovell, at an advance. Seton, West Seton, Prince of Wales, and Gonamena also enquired for. West Chiverton and Chiverton Moor flatter. New Lovell, 3½ to 3¾; Seton, 80 to 90; Prince of Wales, 22s. 6d. to 25s.; Great Laxey, 20s. to 25s.; Chiverton, 52 to 54; Chiverton Moor, 4 to 4½; Chiverton, 2½ to 2¾; Thuroft, 16½ to 17½; Drake Walls, 17s. 6d. to 20s.; Chontales, 17s. 6d. to 22s. 6d.; Don Pedro, 4 to 4½; Taquaril, 13s. to 15s.

**FRIDAY.**—Settling-day. The chief demand to-day has been for West Chiverton and New Lovell, at an advance. West Chiverton, 54 to 56; New Lovell, 3½ to 3¾; Prince of Wales, 23s. to 25s.; Chiverton, 2½ to 2¾; Don Pedro, 4½ to 4¾; Chontales, 17s. 6d. to 22s. 6d.; Yudanumutau, 2 to 2½.

## Mining Correspondence.

## BRITISH MINES.

**BRONFLOYD.**—T. Kemp, Jan. 27: New Shaft: The part of the lode opened on by the 73 fathoms level, west of cross-cut, is without change, producing about 15 cwt. of ore per fathom. The lode to the west of the cross-cut, in the 62, is worth 3½ tons of ore per fathom; a fine-looking lode. The part of the lode carried down by the winze sinking below this level is producing saving work for lead ore. The slope under the 52 is worth 1½ ton of ore per fathom. The slope in the back of the 52 is without change. The place is full of stuff, and we shall be obliged to suspend this bargain for a time, in order to get the stuff cleared out, which will be done as quickly as possible. The 52 fathom level end, east of Barton's cross-cut, is without any alteration to notice. The south part of the lode opened on from the 52, near to and west of old shaft, is composed of very hard spar, spotted with lead and copper ores—progress slow. The ground in the 40 fathom level end west is favourable for driving, and the lode is at times producing stones of lead ore.

**BRYN PUGILL.**—John Kitto, Jan. 28: The lode in the bottom of the engine-shaft, sinking below the 14, is 4 ft. wide, and very good for lead and blende, but the water is so very quick, and principally issuing with great force from the bottom of the shaft, that I am sorry to say we can make but very little progress in sinking. In fact, we have not been able to work in the bottom of the mine more than about two days a week on an average for weeks past. The 24 ft. level ends have not been so productive of late, particularly the eastern one, but this we might reasonably expect, as at the 12 this bunch of ore was not more than 8 fathoms in length at most, while at the 24 it was upwards of 20 fathoms long, and appears to be lengthening considerably as it goes down. In the west-run end we have not yet touched upon the run of ore ground that proved so productive at and above the 12; this run of ore must either be shifted further west than we expected or otherwise, and which is still very likely, the end has happened to be driven in a poor floor in the lode. I am, however, inclined to favour the latter idea, as this is the general characteristic of the lode throughout the mine, and I am of opinion that this is the same run of ore that we have just come upon in the bottom of engine-shaft, which is now about 5 fathoms below the 24. The tribute pitches at the 24 are still looking pretty well, and yielding a fair quantity of ore. Our raisings for the current month will be about 30 tons of lead, with some tons of blende, but this quantity might have been much more easily increased to 40 tons if we had not been interrupted so much by the water. This falling off, however, must not be attributed to the poverty of the mine, but simply and solely to the increase of water, which has overpowered our machinery, and which can only be remedied by erecting a more powerful engine, which we are now preparing to put up.

**CALDBECK FIELDS.**—W. Francis, Jan. 22: The men employed in sinking the winze on the junction of the north and caunter lodes, in the 90 west, have since my last report been engaged stopping east from the winze, and the slope is worth 12 cwt. of copper and lead per fathom; stopping by six men, at 41. 17s. 6d. per fathom; we shall resume the sinking of the winze next week. We are also stopping east from winze sinking under the 90 west, on north lode, and the slope is worth 11 cwt. of blue lead per fathom; stopping by four men, at 41. 15s. per fathom. The lode in the 90 west, on north lode, is worth 11 cwt. of blue lead per fathom; driving by four men, at 101. 15s. per fathom. We have holed the rise in back of the 90 west, on north lode, to the 80 above. The slope in back of the 90 west, on north lode, is worth 1 ton 5 cwt. of blue lead per fathom; stopping by six men, at 31. 15s. per fathom. The slope in back of the 90 east, on north lode, is worth 8 cwt. of copper and lead per fathom; stopping by four men, at 41. 10s. per fathom. The slope in back of the 90 west, on caunter lode, is worth 10 cwt. of blue lead per fathom; stopping by two men, at 31. 15s. per fathom. The 90 east, on south lode, is being driven by two men, at 51. per fathom. In the cross-cut driving north in the 80 west, on south lode, we have intersected the north lode, and as far as seen into it is worth 5 cwt. of copper per fathom; driving by two men, at 101. per fathom. The slope in back of the 80 west, on caunter lode, is worth 11 cwt. of blue lead per fathom; stopping by two men, at 31. 15s. per fathom. The slope in back of the 80 west, on north lode, is worth 10 cwt. of copper and lead per fathom; stopping by four men, at 51. per fathom. The slope in back of the 80 east, on north lode, is worth 9 cwt. of grey lead per fathom; stopping by two men, at 21. 15s. per fathom. We have suspended for the present the slope in back of the 70 west, on the north lode. The lode in the 60 west, on north lode, is of a more favourable character than when last reported; driving by four men, at 81. 10s. per fathom. The slope in back of the 60 west, on north lode, is worth 8 cwt. of copper and lead per fathom; stopping by four men, at 31. 15s. per fathom. In the cross-cut driving south in the 30 west, on north lode, we have met with a branch of lead ore, worth 8 cwt. per fathom, and we have not yet reached the south wall of the lode; driving by two men, at 101. per fathom. The three slopes in back of the 30 are worth 2 tons 3 cwt. of blue and grey lead per fathom. The lode in the shallow level west is impregnated throughout with blue lead, but not in sufficient quantity to value; driving by two men, at 61. 6s. per fathom. In the 70 east, at Crown Point, the lode is of a very hard nature, and in order to prove the same we have commenced to strip down the lode from south side of level, and as far as seen into it is worth 10 cwt. of blue and grey lead per fathom. The slope in back of the 50 east, at Crown Point, is worth 8 cwt. of grey lead per fathom; stopping by two men, at 21. 2s. per fathom.

**CAPE CORNWALL.**—R. Pryor, F. Hosking, Jan. 27: The ground in the 100 and 70 ft. level cross-cuts is without much change to notice since our last report, and in each end we are still meeting with rich spots of yellow copper ore. **CAPEL BAHAGLOGG** (or East Mid-Wales).—John Kitto, Jan. 28: The sinking of the engine-shaft is progressing favourably, considering the nature of the ground, being sunk perpendicularly in the country rock, in order to secure a more favourable position, but will intersect the lode a little below the adit level, from which point it is intended to continue the sinking on its course, with a view to increase speed, and likewise to avoid cross-cuts, which latter I particularly regard as being of great importance in the development of young progressive mines. The lode in the adit level, driving west towards the engine-shaft, has increased in size since my last report, being now fully 5 feet wide, carrying two beautifully defined walls, and containing more carbonate of lime than it has for some time, and yielding occasional stones of ore. We have had some capital stones of ore

in the bottom of this level since my last, and the prospects of having a good mine at a reasonable depth were never more encouraging than at this moment; and from present appearances I am daily expecting to have a further improvement to report in this drive. There is no change elsewhere to notice. The buildings named in my last are completed, and are in first-class order.

**CARADON CONSOLS.**—S. Bennetts, Jan. 26: The 73 north cross-cut is apparently getting through the elvan; and the south cross-cut is in the midst of small stringers of ore, with water still rising from the end; this looks as if the lode is near. The end on the gossan lode is also losing the elvan, and the lode containing more spots of ore, and soft floor-spar. The Clymo's lode, in the 78 west, is smaller than we have seen it for some weeks previously.

**CARADON AND PHENIX CONSOLS.**—Wm. Johns and Son, James Kelly, Jan. 22: We are driving the 60 west of shaft, on No. 1 lode, by a full pair of men; the lode will not be cut into before our next setting-day. In the 50 east, on No. 2 lode, we are nearing the cross-course seen in the upper levels, consequently the ground is in a disordered state, with the lode split up in branches. In the winze sinking below the 40, in advance of this end, the lode is over 3 feet wide, consisting of quartz, muddle, and spotted with yellow copper ore. We have had a pretty deal of water to contend with, as well as in many other mines of late, by the heavy falls of rain; notwithstanding this, the water has been kept out without the least hindrance.

**CARDIGANSHIRE LEAD.**—E. Pearce, Jan. 26: The 50 ft. level cross-cut is driven 8½ fathoms north of the engine-shaft, and I expect the lode will be intersected in about 4 fms. more driving, when there is every reason to believe it will cut rich, as there is a good bunch of ore gone down below the 40, and the ground in the cross-cut is spotted with lead ore, which I consider a good indication. The slopes throughout the mine are producing their usual quantities of lead. I should recommend driving on the south lode in the 50, as it has come into the engine-shaft at this point, and in cutting the lode in the west end of shaft we have broken some good rocks of blende and spots of lead ore intermixed; the lode is improving and getting larger, and there is every indication of laying open valuable ground. The dressing is being pushed on as fast as possible, and yesterday we sampled 20 tons of good quality lead ore.

**CHANTRELLE.**—W. Gasley, Jan. 28: Seeing the branch spoken of in my last report looking very promising in the slopes in the roof of the 110 yard level, west of shaft, I took the men from the slopes last week, and put them to drive the 110 yard level south on the branch, and am glad to say that in driving from 3 to 4 yards we have got about ¼ ton of ore, and the ground and branch, or cross lode, in the present end looking very promising, and is producing some very fine lumps of ore.

**CHIVERTON MOOR.**—J. Juleff, Wm. Bennetts, Jan. 28: In the 85, west of engine-shaft, the lode is 3 ft. wide, composed of flookan, muddle, and stones of lead. The lode in the 85, east of engine-shaft, is 2 ft. wide, composed of flookan, spar, and muddle. The 75, west of engine-shaft, is worth 5 cwt. of lead per fathom. The slopes in the back of this level are producing their usual quantities of silver-lead. In the 65, east of engine-shaft, the lode is 3 ft. wide, and producing good stones of lead. The winze in the bottom of the 65, west of cross-cut, is worth 10 cwt. of lead per fathom. The cross-cut north and south of Cloggy's shaft, at the 40 ft. level, are in each about 9 ft., and the men are making good progress.

**CREBOR.**—J. Gifford, Jan. 26: On Saturday the following bargains were set.—The 120 east to drive on the 100 ft. level of the lode by six men, stent the month, at 90s. per fathom; the portion of the lode carried is 2½ ft. wide, composed of capel, quartz, and white iron, with occasional stones of copper ore. The 120 west to drive by six men, stent the month, at 90s. per fathom; the part of the lode carried is 2 ft. wide, composed chiefly of quartz and prlan, intermixed with muddle. The 96 ft. level cross-cut to drive by two men, stent 1 ft. at 110s. per fathom; in the present end the ground is intermixed with capel, stones of arsenical muddle, and spots of copper ore. A pitch in the back of the 108 east by two men, for two months, at 13s. 4d. in 11., and 12s. 6d. per produce. Davis's pitch, in back of the 108 east, by four men, for one month, at 6s. in 11., and 5s. 6d. per produce. A pitch in the back of the 108 east by two men, for two months, at 11s. 6d. in 11., and 12s. 6d. per produce. A pitch in back of the 84 east by two men, for two months, at 8s. in 11., and 12s. 6d. per produce. We have our sampling all ready—about 60 tons.

**CUDRA.**—F. Puckey, A. Cundy, Jan. 26: In the 142, west of Walker's shaft, we are still continuing the driving of the end by the side of the lode; the ground is rather spare for progress. In the slopes in the back of this level, east of the winze, the lode is 8 ft. wide, producing low-class work for tin, worth 8s. per fathom. In the 130 fathom level end, driving west from shaft, the lode and branch are worth 20 s. per fathom. The lode in the slope in the back of this level is 12 ft. wide, and in places worth 30s. per fathom. In the winze sinking below the 130 we are only carrying down about 6 ft. of the lode, which is composed of quartz, peach, and tin, and worth for the latter—for the length of winze, 9 ft.—321. In the slope in bottom of the 100, from the winze, the lode is 12 ft. wide, and worth 20s. per fathom for that width. In the western slopes, in the back of the same level, the lode is 10 ft. wide, and worth 121. per fathom. In driving and cutting out the lode in the back of the 100, east of eastern slope, the lode is 9 ft. wide, and worth 181. per fathom. Our tribute pitches are without alteration since last report. All our machinery is in good working order.

**CWM DAREN.**—R. Clocker, Jan. 28: I have made preparations for commencing to dress the ore, and have got some people spalling, &c., and making ready for the crushing-mill. The necessary timber I have taken out, and expect to commence crushing about Monday next, and will get on with everything as fast as possible. In squaring down the lode in the engine-shaft to its width, 9 ft., we have good branches of silver-lead ore throughout, and I expect our next advantage to be made for deepening the engine-shaft will prove to be very productive. As we are going on with the dressing, we purpose working away any ground that will bear a good price, and have accordingly made arrangements for working two tribute pitches at the 10, at 117. 11s. per ton, the ore being worth from 181. to 201. per ton; this is for eight men; 130 fathoms west of the engine-shaft we are driving by two men a level westward, where there is good ore 1 ft. wide in the bottom of the level, which is shallow, and as this gains ground in going west we are in hopes of its reaching the back of the level in some little distance driving, and it may, probably, lead to opening out some tribute ground in this direction.

**EAST PLYNIMMON.**—J. Paul, Jan. 26: In the adit level driving west of the River Wye, 2 ft. wide, and as expected, and consequently we are just skimming the back of the lode in a deposit of stiff clay; we shall doubtless soon be through this kind of ground and in the lode, and to hasten the driving will at the setting on Saturday next increase the men from four to six in this level. In the western part of the set (adjoining Plynimmon Mine) a long open cutting for the deep adit cross-cut north has been brought in, and the level now taken cover. From Saturday next we intend to have six men here also, so that no time will be lost in driving forward to the lode.

**EAST ROSE ARNE.**—C. Glasen, Jan. 28: In King's shaft, sinking below the 115, the lode is still 10 ft. wide, worth 101. per fathom. In the 115, west of shaft, the lode is 12 ft. wide, worth 61. per fathom. In the 115, east of shaft, the lode is 12 ft. wide, worth 41. per fathom. In the 105, east of shaft, the lode is 12 ft. wide, worth 41. per fathom. We are getting on very well with the water, engine working about eight strokes per minute.

**EAST SETON.**—J. Vivian and Son, William Thomas, Jun., Jan. 28: In Bassett's engine-shaft we are making good progress in sinking, now down about 4 fms. under the 29 fathom level. The 20 is being driven rapidly towards the eastern copper ground; lode large and promising, driving at the rate of 8 fathoms per month. The 20 is being driven rapidly towards the eastern copper ground; lode large and promising, driving at the rate of 8 fathoms per month. The 20 is being driven rapidly towards the eastern copper ground; lode large and promising, driving at the rate of 8 fathoms per month.

**EAST WHEAL GRENVILLE.**—G. R. Odgers, Wm. Bennetts, Jan. 27: The lode in the 110 east is 18 ft. wide, with good stones of copper ore. The lode in the rise above this level is worth from 151. to 201. per fathom. The lode in the 95 east is 15 ft. wide; this lode has improved to fully 1 ton of copper ore per fathom, and, judging from the lode in the rise above the 110, we may expect a still greater improvement. The lode in the 85 east is split in two parts, together worth fully 1½ ton of copper ore per fathom. The lode in the 75 east is getting larger, and, judging from the appearance we look forward to look forward to for some time. The lode in the 65 east is without change, and we propose to sink a winze from the 55, which will prove whether we are on the right part in this level (65). The lode in the 55 is looking well, worth more than 2½ tons of copper ore per fathom. The rise above this level is worth from 101. to 121. per fathom. We are getting on pretty well with the run in the 45, and which we shall use every effort to clear, as, looking at the 55, this is indeed a most important point.

**EAST WHEAL REETH.**—J. Evans, Jan. 28: To-day I have been in the adit and seen the No. 1 lode, which is large, and is producing good stuff, and is a very fine looking lode, and of that matrix which has not yet been known to be unproductive in this district; and I firmly believe this will be a very productive lode, and deserves speedy development. When the adit end is extended several fathoms east of this lode, and judging from the back of No. 2 lode at surface, I calculate in a few fathoms further driving this lode will be intersected, when strong hopes may be entertained of a very profitable result. The cost of erecting stamps, fixing dressing-floors and machinery, will be about 1001.; and I am of opinion that this mine can be worked to the 20 by the same wheel that is to be fixed for the stamps; and this would give a proper idea as to the best place to erect an engine.

**GAWTON.**—G. Rowe, G. Rowe, Jun., Jan. 23: The ground in the 82 fathom level cross-cut has been a little stiffer during the past week, consequently our progress has not been so rapid in driving towards the lode. The lode in the 70, east from engine-shaft, is showing indications of improvement, with fine stones of ore. The lode in the slope, going down below the 70 east, some short distance behind the end, is looking well, worth 9 tons of ore per fathom. No. 2 slope west is worth 6 tons of ore per fathom. The lode in the winze and slope, going down below the 60 east, is worth 4 tons of ore per fathom. All other points of operation are without change. Upon the whole, our present prospects are cheering.

**GONAGENA.**—R. Pascoe, Jan. 28: The 138 west, on Venning's lode, is improving since last report, now worth 5 tons of copper ore per fathom; this level does not appear to be on the same part of the lode as that on which the winze below the 126 is sunk; we have, therefore, put the men to drive north from the bottom of the winze to intersect it. No alteration in any other part of the mine.

**GREAT NORTH DOWNS.**—Wm. Rich, Wm. Ennor, Jan. 27: We are urging on the sinking of Sleggan's shaft as rapidly as possible; the south part of the lode carries good stones of ore, and the ground looks very congenial for copper; the water, however, is very powerful in this shaft. In the 84, east of Sleggan's, we find the main part of the lode standing north of the level. We are now cross-cutting in this direction to effect a communication with the winze sunk below the 74, on the north part of the lode; we hope to hole this ground in a few days, which will ventilate the bottom of the mine, and open out the lode for stopping. The 84, west of Sleggan's, on the north part of the lode, is suspended for the time, and the men engaged driving a cross-cut through the lode to prove the north part of it; the end of the cross-cut is letting out water freely. The slope in the 74, over this end, is worth 121. per fathom. Three stops in the 74, west of Sleggan's, are worth in the aggregate 281. per fathom. The south lode in the 64, west of cross-cut, has made a splice, and is small and poor for the time; there is a good lode in the bottom of this level, worth fully 201. per fathom. The lode in the back is worth 101. per fathom. The 64, east of cross-cut, on the south lode, looks promising to improve, and carries good stones of ore. The tin lode in the 48, west of King's, has improved, now worth 151. per fathom. The water is abating at the shaft, on Butler's north lode. The operations at the bottom of Butler's and King's shafts have to be suspended on account of the influx of water. Five stops in the 64 ft. level, east of Butler's, are worth in the aggregate 421. per fathom.

**GREAT NORTH LAXEY (Telegraph).**—Capt. Rowe, Jan. 28: Mail car with North Laxey report missed the steamer. The 84 north, and 77 south, both improved.

**GREAT SOUTH CHIVERTON.**—J. Nancarrow, Jan. 26: I am glad to say the 50 lode better to-day, the lode contains more muddle and blende, with spots of lead and copper, all indicating more lead shortly. The shoot of lead in the 40 west, seems to be gone below the level. No alteration in any other place.

**GREAT SOUTH TOLGUS.**—John Daw, Jan. 26: The engines and pitwork are working well, and we are working from 2 to 3 fathoms in 24 hours; at this time the water is 7 fathoms below the 100. We are obliged to put off the copper sampling, owing to the water having risen in the pitches before we could get the ore to surface.

**GREAT WHEAL BADDERN.**—Richard Pryor, H. Tregoning, Jan. 23: We have nothing new in the cross-cut, towards the tin lode, in the 75, at Hill Brothers engine-shaft, to communicate since our last report. In the 75, on the lead lode, west of the cross-cut, the lode appears to be very large, and an increased quantity of water coming out therefrom; it contains muddle, peach, blende, spar, and spots of lead.

**GUNNISLAKE (Clitters).**—Wm. Skewis, J. C. Seecombe, Jan. 28: Engine-shaft: The men are making good progress in sinking this shaft, and cutting ground for tip-plate, &c. We are still continuing the cross-cut north from the 6 east, with the view of intersecting the north lode, and we find that there is a large quantity of spar, friable quartz, &c., mixed up in the cross-course, which is rather an unusual thing in this mine, but we trust that it will act favourably on the lode when intersected. The lode in the 36 west is 1 foot wide, composed of spar, peach, and stones of copper ore. The lode in the 35 east, from the winze, in bottom of the 23 west, is 2 ft. wide, composed of spar, peach, muddle, and copper ore, worth 41. per fathom. The lode in the western end, from the said winze, is worth 51. per fathom. In the 23 west the lode is small and poor. The lode in the 12 west is 2 feet wide, with occasional good stones of copper ore. The lode in No. 1 slope, in bottom of this level, is worth 41. per fathom; and in No. 2 slope it is worth 101. per fathom. No other change to notice.

**GWYDYR PARK.**—W. Smyth, Jan. 26: The lode at the shaft at Gwyn Lliffon is small, and the ground spare for sinking. There is no particular change in the Ucheshlas deep adit end since last report; it still yields nice stones of lead ore. **IMPERIAL.**—E. Pearce, Jan. 27: The engine-shaft is being sunk below the 20 by six men, and is down 4 ft., with lode cut and ground for hanging-rack, and a penthouse put in, as I expect the 10 fathoms will be completed by the end of April, when we shall fix pitwork, and extend levels on the lode. The slope in the back of the 20 is worth about 6 or 7 cwt. of lead ore per fathom. The pitch in the back of the 10 has fallen off in value, and is not 5 cwt. of lead ore per fathom; the tributaries have earned fair wages, and are now dressing up their ore. In the adit cross-cut south we have just passed through a small lode or branch, but of no value; the ground is just the same as it has been for some time past, with cross joints containing spots of lead ore. We have been costeaning on surface, and have met with a lode on the south part of the set; it is about 3 ft. wide, with a leader of solid ore in the centre about 1 in. wide. We shall continue costeaning up to the south lode in that direction.

**LLYWERNOG.**—J. Davis, Jan. 22: The men in the 62 last night cut into the channel of ground which made the good bunch of ore in the level above (50); the lode is composed of a beautiful light coloured blue slate, spar, and spots of lead ore. The end of the level, more particularly on the south side, is letting out a great deal of water, and we shall turn a little in that direction as soon as we can cut the lode fairly abroad.

**LOVELL CONSOLS.**—Wm. Chappell, Jan. 28: The only alteration in the tribute bargains since last report is a good improvement in the 12 west; the lode is 2 ft. wide, producing tin, and we are daily expecting to have it of the same value as in the bottom of the adit, over the present end; but as tin in the Lovell district dips very fast west we have further to drive to take the dip or run of tin; but, as we are now under the perpendicular of the part which is worth 201. per fathom, and as the lode has improved in size and appearance, we may daily expect a good discovery. In clearing the adit east of shaft we have met with some rich stones of tin. The machinery and pitwork are in good working order.

**MES. Y-SAFN.**—Jan. 27: We are getting on pretty well in clearing the sand, but it causes a great many stoppages in working the engines as the sand enters the buckets, clacks, &c., so fast. On Saturday last the feeder in the 350, west of Grosvenor's, began to carry a great quantity of sand, so that we were obliged to keep on winding to prevent the sand from smothering the lifts. We wind between 200 and 300 skips from the Saturday to the Monday morning. At No. 3 shaft the western level is all cleared, and the eastern one will be pushed on with all speed. At Grosvenor's the eastern level is all cleared, and we hope to clear the western one in a few days. The shaft below the bottom level (nearly 20 yards) is almost full of sand and sludge. After the level is all right we must get a lift and clear up the shaft, when we hope to be all right again. The levels are looking poor at present. We shall sample to-morrow.

**MAUDLIN.**—John Treagar, Jan. 23: The lode in the rise in the back of the deep adit level will produce 1½ ton of copper ore per fathom. We have not yet been able to prove anything of the lode north of the western drive, we having had a piece of the horse to shoot down to uncover the lode. We hope to report the value of the lode here next week.

**MID-WALES LEAD.**—J. Kitto, Jan. 28: The engine-shaft is being sunk below the 12 ft. level, by a full force of men, and will be pushed on with all possible speed, in order to reach the 24, where we purpose again driving out both east and west on this lode. This shaft, in order to facilitate its progress, is being sunk immediately under the lode, so that I am unable to give either its size or value. The 12 ft. level is being driven west by six men, in a large lode, still strongly impregnated with blende, and a little lead ore; we have about 6 fms. further to drive in this level to reach the first run of ore ground that we passed through in driving the deep adit; this I hope to reach in about six weeks from this date, and from which I expect to raise a pretty good quantity of both lead and blende ores. There is no change to notice in the deep adit level driving west since my last report. We have commenced to sink a sump below this level, in good ore ground, where we have some capital lead and blende, but I am afraid we shall have to suspend it again until the 12 ft. level is further advanced in this direction, as the water is so quick that it makes it quite impossible to sink it to any advantage, and the same work can be done after the water is drained by the deeper level for much less than one-half of the money that it would now cost, but there can be no doubt of having a large quantity of ore out of this ground as soon as it is drained and properly opened out, by communicating with the level below. The slope in the roof of this adit level is still looking pretty well, but is getting much shorter as we rise towards the surface. I hope next month to raise 20 tons of ore, and a corresponding quantity of blende.

**MINERA UNION.**—W. T. Harris, Jan. 28: Low's Shaft: The lode in the 60 yard level north is 2½ feet wide, yielding occasional stones of lead. We have commenced driving a cross-cut west from this level, to intersect the Sand lode; the ground is favourable for progress.—Brabner's Shaft: The ground in the 80 yard cross-cut consists of shale and spar; a little water issues from the end.—Boundary Shaft: The 60 yard level north continues in precisely the same kind of ground as last reported. The ground in the big cross-cut consists of limestone. The pitches are about the same in prospect as last reported.

**MOUNT PLEASANT.**—W. Wasley, Jan. 28: I am glad to say that the tributaries working to the west of Brabner's shaft are still yielding fair quantities of ore, and the ground looking very promising. I have set to four men to clear the south of Bright's shaft, at 81. per ton—men to pay all costs. We are making good progress in driving the level north of Bright's shaft, but the ground is not favourable for production; I hope, however, that we shall not be long before we meet with an improvement. We have finished repairing the boundary shaft, and the men have re-commenced to drive west of the 120 yard level cross-cut, north of Jenkins's shaft, where we have no change of importance to report.

**NEW CLIFFORD.**—James Michell, Jan. 28: Since my last report we have intersected in the north cross-cut some branches of muddle and copper ore, which, no doubt, is coming from Weston's lode, that I am daily expecting to meet with near this point.

**NEW ROW HILL.**—A. Kent, T. Trelease, Jan. 26: At the engine-shaft we are sinking as fast as the nature of the work will permit; the ground at present is rather stiff. Our pitches in the 35 are without any change to notice.—Wheal Louisa: In the 7 cross-cut we are making good progress towards the lode; ground pretty good for driving through, and also congenial for the production of lead ore. In



edges value the mine at fully 100,000*l.* The whole expenditure on this mine, up to the time of its making profits, scarcely reached 5000*l.*, a specimen of the nature of the success that may be expected from Welsh lead mining. Twenty years ago Mr. Le Faux, a local gentleman, similarly realised a fortune of about



40,000, on an expenditure of a few hundreds, in working the Pencil Mine, on the same vein as the Van. Brynpostig is returning about 40 tons of lead per month, and blends in proportion, which leaves a fine monthly profit. The increase of water here will probably necessitate a new engine, and consequently some increase of capital; but after this is done, Brynpostig ought readily to be able to pay the shareholders 50 per cent. on its capital. It is said the well-known ancient mines on the left bank of the Dovey, near the borders of Montgomery and Cardigan, are about being re-worked, under the name of the Dylifoe district, made great returns of lead in the ancient times, and have this great advantage, that they can be drained for 30 fathoms below the present bottom by adit levels. The Pynllimon Mine, similarly situated, owned by a wealthy private Birmingham company, seems likely to turn out as fine a mine as the Van, a lengthened run of rich ore having been gone through in the deep adit.

**ANOTHER FATAL COLLIERY EXPLOSION.**—A telegram, received late last night, states that yesterday morning (Friday) a serious explosion took place at the Springwell Colliery, in the Gateshead district, the property of Messrs. Bowes and Co. The mine bore a good character for careful management, and more than thirty years had elapsed since any mishap of this kind occurred therein. It is supposed that the explosion arose from the use of naked lights. Three men are killed, and several others injured; two of those dead were the victims of the after-damp.

**ON THE HAULAGE OF COAL.**—The report of the Committee appointed by the North of England Institute of Mining Engineers to investigate this subject has just been issued (through Mr. A. Reid, of Newcastle-on-Tyne), forming a handsome volume of nearly 200 pages of letter-press, and upwards of 50 pages of engravings. The Tail-Rope, Endless-Chain, and Endless-Rope systems of haulage are fully described and discussed—the conclusions arrived at being that the Tail-Rope is not desirable, except when the plane to be worked has numerous branches, and when they and the wagon-way are either level or undulating; that the Endless-Chain is adaptable to every condition of wagon-way, but will only work safely in a straight line, or round a slight curve; and that one arrangement of the Endless-Rope system may be expected, under some circumstances, to supersede the Tail-Rope. The report will be fully referred to next week.

**RATING OF MINES.**—An attempt has been made by Mr. W. H. Peacock, jun., of Barnsley, to show that a farmer is placed at a disadvantage by the creation of an immense iron industry around him, and he instances a case where in the Cleveland district the rating on the same farm has gradually increased from 20% per annum before the discovery of the ironstone, in 1850, to 100% at the present time, but Mr. Peacock does not state whether the increased rating is due to the increased value which the property has acquired through the existence of the very iron mines of which he complains. Before Mr. Peacock's arguments can have any force he must state the percentage upon the assessed value of the land in each year which has been paid in rates.

**SOUTH FRANCES AND WEST BASSETT BOUNDARY DISPUTE.**—This long-litigated question was again brought forward yesterday, when the cause "Thomas v. Richards" (formerly "Lyle v. Richards") came before Vice-Chancellor James for the cross-examination of witnesses. The case occupied the Court for some hours, when the decision was given against West Basset—the bill being dismissed, with costs.

**LEAD MINING IN WALES—BRYNSTYTH MINE.**—A perusal of the details of the special meeting, reported in another column, will show that this property is being vigorously developed, and that its general prospects are of the most encouraging character. The information afforded by the managing director elicited the satisfaction of the shareholders. The various authorities upon whose opinion the present company resumed operations have been supplemented by others, among whom there is a concurrence of testimony that the only condition necessary to ensure success is an energetic and economic working. Since the meeting the mine has further improved.

**CWM DWYFOR COPPER AND SILVER-LEAD MINES.**—The miners are now actively engaged in widening the cross-cut into the Champion copper lode at surface, preparatory to driving east and west on this enormous lode, the object being to get out as much of the ore part of the lode as can be broken, as well as to extend the levels east and west, in order to lay open ore ground before the 12 fathom level comes in, to develop the mine at that depth. The water-wheel and crusher are now being contracted for, and by the time these are erected there will be plenty of valuable lodestuff to operate upon. Besides, the probability is that other rich deposits of copper will be cut into. Great interest appears to be taken in this and other Welsh mines by mining capitalists.

**FRONTINO AND BOLIVIA.**—The usual advices have been received through the West India Mail, and a remittance of four bars of gold, weighing about 350 ozs. The reports from the mines are considered satisfactory.

## MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

**CASTELL CARN DOCHAN (Gold).**—Capt. J. Parry (Jan. 27) reports—I am happy to state that we have found a little visible gold this week. The ground in the forefront of the cross-cut, in the deep level, is better for cutting than when last reported on. When we have the driving extended some 10 fms. more, and a communication effected from the end of it with the shallow adit above, we shall be able to raise 200 tons of ore monthly.

**NORTH JANE.**—This mine has greatly improved, and the prospects were never so encouraging as at the present time. They are raising tin, and the sales are expected ere long to greatly increase, excluding important discoveries to take place. This mine adjoins and embraces the same lodes as Wheal Jane, shares in which were 2½ each two years since, but now 4½, and paying 6½ to 9½ per share yearly in dividends.

**NANGILES.**—Since the late advance in tin, 22 men have been put on the tin ground. The tin sales will come into the May meeting account; this is exclusive of the copper sales, which by that time must increase, as a considerable quantity of copper ore has to come away between the 120 and 130 fm. levels. The mine is in thorough working order, having two new boilers, and a third in good condition. There is an 80-in. pumping-engine, of sufficient power to put the mine 80 fms. deeper, if necessary. Of all the mines in Cornwall, few can boast of such a splendid position. Consolidated Mine has paid 1,500,000, in dividends, and shares rose to 900½ each. All their lodes go through the north part of Nangiles, and it is one of these lodes they will cut in a few weeks in the 130 north cross-cut. All the lodes of the United Mines pass through Wheal Clifford into the south part of Nangiles.

**PERDAN-DREA.**—The adventures in these mines, after several years of perseverance, and at a cost of some 50,000, are, it appears, to be rewarded. Last week in the north portion of the mines the lode was cut into at the 90 fm. level cross-cut, worth 60½ per fm. The lode has also been cut rich at the 55 and 47 fm. levels. This vast discovery of tin will not only be a great boon to the shareholders, but to the town and trade of Redruth. The shares have already considerably risen in value.

**NORTH POOL.**—The shareholders in this mine are likely soon to be rewarded for their patience and outlay. It is confidently expected that when the 50 fathom level is reached a good discovery of copper will be made, judging from the nature of Ballarat lode in the shaft.

**WHEAL MARY HUTCHINS.**—On visiting this mine I was glad to see every part of the workings going on very satisfactorily: they are gradually improving, and are now in a lode running east, worth fully 30½ per fm., and in a most splendid channel of ground. This easterly working is gradually approaching the granite of Hemerdon Ball, and therefore, there seems to be a great prospect of a fine continuation. I have little doubt the adventures will soon be rewarded by good dividends.

Seeing in the Journal for a long time the ROYALTON MINE reports bearing no signature, and having watched the Tin Sales in Cornwall for a long time, I have never seen this mine mentioned. If the tin is sold privately it would be as well if the agent would publish the number of tons sold, the price per ton, and the profit made on such sale. This would remove any mistrust.

The last sale of silver-lead ore at PRINCE ARTHUR MINE (late Wheal Betsy) more than paid the cost, and the general opinion is that a little more outlay and patience will bring this mine into a paying position.

**BEDFORD UNITED MINE** appears to have passed the last call, and the present appearance in the north shaft will almost guarantee a dividend for many years. In the old mine, which is now producing a fair quantity of ore, at the bottom of the north shaft every fathom sunk increases in value. It has every facility for being worked with economy, being well supplied with water, and all the ore carried over the Devon Great Consols Mine at a cheap rate. It may be considered past a speculation, and soon expected to appear in the Dividend List. It is managed by Capt. James Phillips, who shows his confidence in it by being one of the largest shareholders.

**CAMBORNE VEAN.**—Capt. Nicholas Clymo says—"We have a large amount of tin ground of low quality in the mine that has not been worked for some years, as with the low price of tin it would not pay to work; but as tin has risen nearly 25% per ton in value we shall again begin to work it. Our present monthly cost is about 420½, and from the experience of the last three months we have no hesitation in saying that we shall be able to return about 7 tons of tin a month, and we trust that by vigorously sinking the shaft we shall ere long reach the rich tin ground that we believe is below us."

\*\* We last week published a SUPPLEMENTAL SHEET, containing the Title-page and Index to the Thirty-eighth Volume of the MINING JOURNAL—Temperature of the Earth's Crust, by Mr. Edward Hull—Progress of Copper Mining in Turkey—Mining Dividends during the Year 1868—The Copper Trade, &c.

## The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, JAN. 29, 1893.

COPPER.		£ s. d.	£ s. d.
Best selected, p. ton	82 10 0	84 0 0	
Tough cake and tile	81 10 0	82 0 0	
Sheathing & sheets	85 10 0	—	
Bolts	83 0 0	—	
Bottoms	85 0 0	88 0 0	
Old (Exchange)	69 0 0	70 0 0	
Burra Burra	86 0 0	—	
Wire, per lb.	0 10 0	0 10 ½	
Tubes	0 11 ½	1 0	
BRASS.		Per lb.	
Sheets	9d.	—	
Wire	8 ¾ d.	8 ¾ d.	
Tubes	10 ¾ d.	11 ¾ d.	
YELLOW METAL SHEATH.		Per lb.	
Yellow Metal Sheath, p. lb.	7 ¾ d.	—	
Sheets	7d.	—	
SPELTHER.		Per ton.	
Foreign on the spot	£20 10 0	—	
" to arrive.	21 0 0	—	
ZINC.		£ s. d.	
In sheets	£25 10 0	26 0 0	
TIN.		£ s. d.	
English blocks	116 0 0	—	
Do, bars (in barrels)	117 0 0	—	
Do, refined	120 0 0	—	
Banca	£114 0 0	115 0 0	
Straits	114 0 0	—	
TIN-PLATES.		Per box.	
IC Charcoal, 1st qua.	1 6 1	8 6	
IX Ditto, 1st quality	1 12 6	1 14 6	
IC Ditto, 2d quality	1 5 6	1 6 6	
IX Ditto, 2d quality	1 11 6	1 12 6	
IC Coke	1 3 6	1 5 6	
IX Ditto	1 9 6	1 11 6	
Canada plates, p. ton	13 10 0	—	
Ditto, at works	12 10 0	—	
IRON.		Per ton.	
Bars Welsh, in London	6 12 6	6 15 6	
Ditto, to arrive	6 10 0	6 12 6	
Nail rods	7 0 0	7 2 6	
Staff, in London	7 12 6	8 10 0	
Bars, ditto	7 10 0	8 10 0	
Hoops, ditto	8 2 6	9 15 0	
Sheets, single	9 2 6	11 0 0	
Pig No. 1, in Wales	3 15 0	4 5 0	
Refined metal, ditto	4 0 0	5 0 0	
Bars, common ditto	6 0 0	—	
Do, mch. Tyneor Tees	6 10 0	—	
Do, railway, in Wales	6 0 0	—	
Do, Swed. in London	10 0 0	10 5 0	
To arrive	10 0 0	—	
Pig, No. 1, in Clyde	2 15 6	3 2 6	
Do, f.o.b. Tyneor Tees	2 9 6	—	
Do, Nos. 3, 4, f.o.b. do.	2 6 2	7 0	
Railway chairs	5 10 0	5 15 0	
" spikes	11 0 0	12 0 0	
STEEL.		Per ton.	
Indian Charcoal Pigs, in London, p. ton	7 0 0	7 10 0	
Swed., in kegs (rolled)	15 5 0	15 10 0	
" (hammered)	15 5 0	15 10 0	
Ditto, in fagots	16 0 0	—	
English, spring	17 0 0	17 0 0	
QUICKSILVER (p. bottle)		£ s. d.	
	6 17 0	—	
LEAD.		Per ton.	
English Pig, com.	19 0 0	—	
Ditto, L.B.	19 5 0	19 7 6	
Ditto, W.B.	21 0 0	—	
Ditto, sheet	20 0 0	—	
Ditto, red lead	21 0 0	—	
Ditto, white	20 0 0	—	
Ditto, patent shot	22 0 0	22 10 0	
Spanish	18 5 0	18 7 0	

\* At the works, 1s. to 1s. 6d. per box less.

**REMARKS.**—A slight degree of quietude has been manifested in the Metal Market during the past week, resulting in some measure, doubtless from the great interest taken in commercial circles by the examination before the Lord Mayor of the directors of Overend, Gurney, and Co. (Limited), which has caused a considerable degree of excitement amongst all classes of the community, and more especially among business men, and has been the means, to some extent, of retarding the course of improvement which had taken place in the metal trade; and now that they have been committed for trial the excitement will, in a measure, be continued, until the final result, whatever that may be. This interruption, however, is only a temporary affair, and is not by any means calculated to have any permanent effect upon trade, and will pass away with the judgment of the Court. We, therefore, look to see the market again recovering itself, and going forward to renewed activity. The returned mildness of the weather will also tend to prevent that want of vigour which generally follows a severe season. Prices generally remain firm, and there does not appear any disposition on the part of sellers to accept lower rates, and, indeed, in some cases, manufacturers refuse to accept contracts for delivery at distant dates, they fully anticipating that higher prices will rule ere long. As the season becomes more advanced considerable orders from America may be anticipated, and already a very fair trade is being done in some metals with the United States. Orders from India also have shown some improvement, and it is to be hoped that we shall soon return to the activity which used formerly to characterise our transactions with that portion of the empire. As the Money Market remains easy speculative operations in metals are still greatly facilitated thereby.

**COPPER.**—At present the market is rather quiet, and no transactions of importance have taken place during the week. The standard of ores is however advancing, and at the last sale at Swansea was 4½ higher than at the previous sale. Chili bars are now quoted 73½ to 74½.

**IRON.**—In Staffordshire orders come in slowly, merchants having bought freely last quarter in anticipation of the possibility of an advance in prices. A few of the principal works are in full operation, but most are not making more than two-thirds time. In Welsh the works are chiefly employed in rail contracts for the United States and the South American markets, and there are also some continental engagements on the books. Fresh contracts for considerable quantities are now under negotiation, a fair proportion of which, it is expected, will be secured by Welsh makers. Buyers on home account are not as yet offering heavy contracts. Pig brands of repute command a good sale at current quotations; sellers of both pig and manufactured iron are not disposed to enter into heavy engagements for forward delivery, except at enhanced prices. In Swedish iron there is still a good enquiry, and a fair amount of business will ensue as soon as the navigation is open. In Scotch pig-iron the market has not been very active during the week, and the amount of business transacted has not been large; the price has rather declined, the last received from Glasgow being 55s. 1½d. cash.

**LEAD.**—Only a moderate business is now doing, but prices have undergone no change, and are still firm at the quotations.

**TIN.**—The market for Straits has not quite maintained its position, and business has been done at 114½ cash and 114½ 10s. for arrival, at which sellers remain firm. English continues steady at the official rates.

**SPELTHER.**—A decidedly better feeling has occurred during the week, and a considerable amount of business has been done, amounting in all to about 1300 tons, at 20½ 10s. for parcels on the spot, and 20½ 10s. to 21½ for delivery in April and May.

**TIN-PLATES.**—There is a moderate enquiry only, the American spring demands not having yet arrived.

**STEEL AND QUICKSILVER** without alteration.

**THE COPPER TRADE.**—Messrs. Vivian, Younger, and Bond (Jan. 29) —Transactions in West Coast produce have been very limited, but prices remain about the same as last week. The operations in bars have been limited to 200 tons, to arrive in Liverpool, part at 74½, and the remainder at 74½ 10s. Early in the week about 750 tons of ores to arrive were taken off at 15s. per unit, and later 400 tons of regulus, half Liverpool and half Swansea arrival, at 15s. 3d. per unit. The mail from Valparaiso, which has been anticipated via the United States, brings advices that the whole of the 1800 tons of fine copper chartered for during the first fortnight in December is for the United Kingdom, with the exception of a small parcel for Bordeaux, but that none goes to America, as had been currently reported. The market closes steady, without any pressure to buy or sell. English smelters, although orders are few, will not give way at all in price, and would not sell very freely at current quotations. Some small lots of Burra have made 86½, and 86½ 10s. The standard of ores at Swansea advanced 4½ 10s. over the sale in the month of December.

**Messrs. James and Shakespeare.**—The Swansea Ticketing went off, at an average of 14s. 10d.; by private contract a few sales of copper and regulus, chiefly to arrive, are reported at 15s. and 15s. 3d. per unit. In bars the transactions have been limited, perhaps 400 tons in all, at 74½ to 75½ per ton, according to brand and quality. Australian sorts are quiet at a reduction of 10s. per ton, but the quantity on the way to this country is only about one-third of what it was at the same period of 1892. The official rates of English remain unchanged; smelters, however, are open to offers slightly below their full prices. English tin regulus, and some second-hand lots on sale at 1s. below makers' quotations. Foreign is again easier; Straits changed hands down to 113s. per cwt., and as the parcels on the way show a large profit to importers, a somewhat irregular market may be expected whilst the demand continues slack.

**COAL MARKET.**—The arrivals this week have been extremely moderate, only 84 ships of all kinds having come forward. The cold weather in the fore part of the week had a favourable effect upon the trade in house coals, and an advance of 6d. per ton was realised; but on the return of mild weather to-day the tone of business was less active, but prices were supported, and a clearance effected. Hartley's have ruled dull at a decline of 6d. Hetton Wallsend, 18s. 6d.; Haswell Wallsend, 18s. 3d.; Stewart's Wallsend, 17s. 9d.;

Framwellgate Wallsend, 18s. 9d.; Kelloe Wallsend, 16s. 3d.; West Hartley, 15s. Unsold, 1 cargo: 150 ships at sea.

A pressure of sales in the MINING SHARE MARKET, consequent in a great measure on the settlement of the fortnightly account, which was heavy in speculative transactions, has made the market very dull this week, and prices in many instances have given way considerably. This downward tendency has also been accelerated by unfavourable rumours respecting a prominent mine, and circulated, as it is believed, chiefly for market operations. The shares mostly dealt in have been New Lovell, West Chiverton, Wheal Chiverton, Chiverton Moor, Marke Valley, Great North Laxey, Tincoff, Prince of Wales, West Frances, Seton, West Seton, Gonamena, Great Laxey, East Caradon, Don Pedro, Providence Mines, and a few others. The standard for copper ore shows no change this week. West Chiverton shares have been knocked down—for scarcely any other term can be used—to 52, and leave off 54 to 56. The bottom level, it is said, is not looking so well, but it is not yet up to the rich ore ground in the 110, and a winze, 5 fathoms ahead of the 120 fm. level end, has been sunk in a splendid course of ore; and as the winze is now full of water, it is clear that this part of the lode has not yet been out in the 120. Around Batters' shaft, which is the great point of the mine, the prospects are said to be better than ever. The dividend at the meeting next month will be 2½ per share. In reference to the fall in shares, a letter from the manager has been circulated among the shareholders, in which he states, "The mine continues to look well, and he sees no reason for the drop." Cook's Kitchen, 12 to 13; Drake Walls, 18s. to 20s.; Don Pedro, 4½ to 4¾. East Lovell, 8½ to 9½; at the meeting a dividend of 10s. per share was declared. New Lovell shares, after declining to 2½, 2¾, have again risen to 3½, 3¾.

South Caradon, 340 to 350; at the meeting, held on Tuesday, the accounts showed a profit of 2579½. On the two months, and a dividend of 5½ per share (2560½) was declared, leaving 2820½ 14s. 4d. in hand. The report states that the prospects of the mine continue good, and such as will enable the present rate of dividends to be kept up. Capt. Peter Clymo, who has been manager more than 20 years, has been compelled, through ill-health, to resign his post; and everyone acquainted with him and his management of the mine will heartily concur in the remarks of the purser that "he had given it a prominence for management and success most beneficial to the interests of the company, and fully recognised by all who have desired to see mining conducted upon sound principles." It is now about 33 years ago that the Messrs. Clymo obtained the sett of South Caradon, and we perfectly remember Capt. James coming to London, in 1837, we think, to dispose of a part of it; but the district was not thought anything of in those days, and the specimens of ore he brought with him had, it was said, "too much peach in them," and no one would join in the speculation. Returning home by the coach, he offered a fellow-traveller, well known as an extensive holder of mining property, one-half the mine (or 32-64ths), at 5½ per share. The offer was refused, and in a few months the same shares fetched 2000½ each. In 1838 the mine commenced paying dividends, and from that time to this has divided among the shareholders, upon an original outlay of about 1000½, 315,326½. During the whole of this time the shares have kept steady in price, and no detailed reports of the underground operations have ever been published, the utmost reliance having always been placed upon the manager's pithy reports, "The mine continues to look well." At times there was scarcely an end in the mine to value—changes from great productiveness to comparative poverty, and then again opening out rich, being one of the characteristics of lodes in our best mines; and, in the present day of share gambling, every change of this kind is watched for by "scouts," and made use of for working shares up and down. Just now the operation is in full force as regards West Chiverton. East New Lovell, ¾ to ¾; Frank Mills, ¾ to ¾; Frontino and Bolivia, 8s. to 10s.; Great Laxey, 19½ to 20½. Great North Laxey have advanced to 22s. 6d., 27s. 6d., and the mine much improved.

Prince of Wales shares have been flat, but leave off 22s. 6d. to 25s.; driving is being carried on by the side of the lodes in the 65 fathom level, and, consequently, there is no change. Great Wheal Vor, 11 to 11½; Herodsfoot, 43 to 45; Marke Valley, 9½ to 9¾; New Seton, 70 to 75; North Crofty, 25s. to 26s.; Taquaril, 13s. to 15s.; General Brazilian, 9s. to 11s.; Penhalls, 5 to 5½; Great Western, 24 to 2½; North Treskerby, 17s. 6d. to 20s.; Providence Mines, 34 to 36; South Condurrow, 15s. to 17s. 6d.; South Herodsfoot, 15s. to 20s.; St. Ives Consols, 11 to 13. East Grenville, 3½ to 3¾; the lode in the 110 east is 18 in. wide, containing good stones of copper ore; the rise above this level is worth 15½ to 20½ per fathom; the 55 east is worth 2½ tons of copper ore. Gonamena shares have advanced to 20s. 25s.; the mine has considerably improved. Tincoff, 16½ to 17½; Trumpet Consols, 17 to 18; West Frances, 38 to 40; West Great Work, 2½ to 3; West Seton, 205 to 215; Wheal Chiverton, 1½ to 2½; Wheal Grenville, 30s. to 32s. 6d.; Wheal Kitty (St. Agnes), 4 to 4½; Wheal Mary Ann, 21½ to 22½; Wheal Seton, 80 to 85. Chontales shares have been very flat, and leave off 17s. 6d. to 22s. 6d.; Mr. Bell's report, preparatory to the meeting on Feb. 2, has been issued, and he explains the causes which led to the failure of his estimates made in September last—that poor bars of ground were met with in the main adit levels, and, consequently, there was a falling off in the yield of gold. He considers, however, for various reasons (which would take up too much of our space to enter upon fully), that perseverance will ultimately lead to success; but to complete the explorations in progress, and to bring the mines into good working order, will require a further sum of 10,000. The machinery now erected is sufficient for the reduction of 2000 tons of ore per month. The mines are opened to supply that quantity, and the tramways completed to take it to the reduction-works. The works of construction, therefore, having been completed, the expenditure at the mines can be reduced to 1500½ per month, while 2000 tons of ore, yielding only 5½ dwts. per ton, will cover it; and as the main levels, &c., open out fresh supplies, the returns will increase. Yudanamutana, 2 to 2½; Wheal Uny, 3½ to 3¾.

The Market for Mine Shares on the Stock Exchange has been well supported during the week; prices have not materially altered from previous quotations, and there has been a total absence of excitement. Brazilian descriptions continue in favour, and British mines have commanded a fair share of attention. West Chiverton shares would appear to have been unduly pushed down, and the efforts of adverse operators to influence prices has called forth a circular from the purser, accompanied with a letter from the captain, from which it appears the fall is not justified by any change in the mine: 40s. will be paid next month—the usual dividend. Shares have rallied from the lowest point, and close 54 to 56. Great Laxey shares have been in demand, and close 19½ to 20½. Great Wheal Vor shares are 10½ to 11½. Prince of Wales, 23s. to 25s. East Caradon shares are in good demand, at 9½ to 9¾, and Marke Valley at 9½ to 9¾, ex div. Glan Alun, 12s. 6d. to 13s. 6d.; the water is out of the mine, and important results are looked for at an early date. In foreign descriptions, Don Pedro shares have been firm, at 3½ to 3¾ prem. Taquaril, 5s. 6d. to 6s. 6d., and largely dealt in. Important news is expected from this mine by the next Brazilian mail. St. John del Rey shares are unaltered, and dull at 15½ to 16½. Anglo-Argentine, ½ to ½ prem.; Anglo-Brazilian, par to 1-16th prem. Rossa Grande, 9-16ths to 11-16ths prem., and in demand. Sao Vicente steady, at ½ to ½ prem.; Yudanamutana, 1½ to 2. Port Phillip, 1½ to 2, and firm at quotations. Frontino and Bolivia, 7s. to 9s. General Brazilian shares are well maintained, at 3s. 6d. to 4s. 6d. prem. Pestarena, 1½ to 1½. Chontales shares have fallen to 20s., 22s. 6d. per share.

The PERDU CARTA LEAD MINING COMPANY, with a capital of 30,000, in shares of 10½ each, has issued its prospectus. The property is situated in the Island of Sardinia, about eight miles from Iglesias, and 20 miles from the port of shipment. The geological formation is limestone and killas, and consists of several lodes or veins of lead and zinc ore, which have been more or less opened—the mines already yield a profit, although worked under adverse circumstances. The mines have been inspected by Mr. H. T. Verran, who has "no hesitation in saying that the Perdu Carta mineral property is one of the most promising in the island; and, if economically worked from the commencement, will soon rank amongst the first



dividend-paying lead mines;" and by Mr. J. L. Barker, who considers it will prove a lasting and immensely profitable undertaking.

At the Swansea Ticketing, on Tuesday, 1245 tons of ore were sold, realising 16,261 14s. 0d. The particulars of the sale were—Average standard for 9 per cent. produce, 95 16s. 6d.; average produce, 17 1/2; average price per ton, 13 1/2s. 2d.; quantity of fine copper, 219 tons 9 cwt. The following are the particulars of the two last sales:—

Date. Tons. Standard. Produce. Price per ton. Per unit. Ore copper. Dec. 8. 1896 ..... £91 6 6 ..... £11 1 7 ..... 13s. 10d. .... £69 5 0 Jan. 26. 1245 ..... 95 16 6 ..... 17 1/2 ..... 13 1/2 ..... 14 10 ..... 74 2 0

Compared with the last sale, the advance has been in the standard 4 1/2 10s., and in the price per ton of ore about 16s. There will be no sale on Feb. 16.

At Redruth Ticketing, on Thursday, 2341 tons of ore were sold, realising 12,039 12s. 6d. The particulars of the sale were:—Average standard, 103 1/2s. 9s.; average produce, 7 1/2; average price per ton, 5 1/2s. 3s.; quantity of fine copper, 178 tons 12 cwt. The following are the particulars of the sales during the past month:—

Date. Tons. Standard. Produce. Price per ton. Per unit. Ore copper. Dec. 24. 1703 ..... 98 16 0 ..... 8 ..... £5 2 0 ..... 12s. 10d. .... £64 4 0 Jan. 7. 1458 ..... 101 5 0 ..... 7 1/2 ..... 5 0 6 ..... 13 1 ..... 65 9 6 Jan. 7. 685 ..... 105 0 0 ..... 6 1/2 ..... 4 1 6 ..... 12 7 ..... 62 14 0 Jan. 7. 3322 ..... 108 13 0 ..... 6 1/2 ..... 4 10 0 ..... 13 4 ..... 67 8 6 Jan. 7. 2341 ..... 108 9 0 ..... 7 1/2 ..... 5 3 0 ..... 13 6 ..... 67 8 0

Compared with last week's sale, the standard is about stationary. Compared with the corresponding sale of last month, the advance has been in the standard 30s., and in the price per ton of ore about 2s. 3d.

The following dividends have been declared during January:—

Mine	Per share	Amount
Devon Great Consols	£4 0 0	£4096 0 0
South Caradon	5 0 0	2560 0 0
Marke Valley	0 5 0	2250 0 0
Foxdale	0 10 0	1400 0 0
Tramper Consols	0 10 0	1000 0 0
East Lovell	0 10 0	953 0 0
East Pool	0 10 0	640 0 0
Penhalls	0 5 0	625 0 0
Cook's Kitchen	0 5 0	613 10 0
Levant	4 0 0	660 0 0
Brondford	0 10 0	500 0 0
Cargoll	0 10 0	458 0 0
Cwm Erlyn	0 10 0	433 10 0
Port Phillip	0 1 6	7500 0 0
Total		£23,689 0 0

At South Caradon Mine meeting, on Tuesday (Mr. Thos. Kittow in the chair), the accounts for September and October showed a credit balance of £3801 14s. 4d. The profit on the two months' working was £2791 4s. 2d. A dividend of £2600 (5s. per share) was declared, and £2820 14s. 4d. carried to the credit of next account. Captain Clynno's resignation, through ill health, as active manager, was accepted with regret, and he was appointed honorary manager, the future active management being vested in Capt. R. and Holman. The report of these gentlemen stated that there had been an improvement in the bottom of the old sump-shaft. The bunch of ore in the level above, to the west of the shaft, has been met with sooner than expected, showing that it is lengthening eastward.

At the Levant Mine meeting, on Wednesday, a dividend of 660s. (4s. per share) was declared.

At the Cargoll Mine meeting, on Jan. 21, the accounts showed a credit balance of £571 5s. 10d. Capt. John Grose and Robert Tyzzer say: "We have sold 80 tons of lead ore, realising 1370s., which is for the credit of the next account, and in addition to which we shall have about 70 tons more, and the usual quantity of blende." A dividend of 10s. per share was declared.

At East Wheal Lovell meeting, on Tuesday (Mr. H. Rogers in the chair), the accounts for the eight months ending September showed a credit balance of 1937 6s. 2d. A dividend of 953s. (10s. per share) was declared, and £41 6s. 2d. carried to credit of next account. Captains Quentrell and Peters reported upon the various points of operation. Their labour cost and merchants' bills for the next four months will be about 1000s., and should the lodes and the price of tin continue as at present they expect to show upwards of 1000s. profit at the account to be held in May.

At the East Wheal Russell meeting, yesterday (Mr. Milford in the chair), the accounts showed a balance of liabilities over assets of 168 14s. 10d. A call of 3s. 6d. per share was made. The offer to work the mine on tribute above the 100 ft. level was discussed, and it was resolved that it could not be entertained in its present shape, owing to the risk and liability it would entail upon the company.

At the North Downs Mining Company general meeting, on Monday (Mr. H. Milford in the chair), the accounts show a debit balance of 658 14s. 6d. The meeting was adjourned to Feb. 16, when it will be made special to consider certain resolutions proposed. Details in another column.

At the West Basset Mine meeting, on Wednesday, the accounts showed—Balance from last meeting, 158 10s. 7d.; copper ores sold, 963 8s. 2d.; tin ores sold, 1663 0s. 2d.; stores sold, 19s. 8d.; advance on tribute, 130s.; calls received, 213 15s.; = 3129 13s. 7d. Cost for October and November, 2233 11s. 1d.; royalty, 167 18s.; advance on tribute, 135s.; boundary costs, 389 16s. 4d.; bankers' interest and commission, 17 9s. 11d.; sundries, 25 1s. 3d.; balance, 160 18s. 2d. = 3129 13s. 7d. Capt. G. Lightly says: "I regret my inability to point to any marked improvement in the productiveness of our copper lodes since the last meeting, although their appearance at the several points of operation is very promising; our tin lodes, on the other hand, continue to open up most satisfactorily, and a considerable extent of profitable ground has been explored in the various levels and winzes in the past two months. Operations at our new steam stamps were commenced about a month since, and both stamps and tinning appliances, as far as completed, are working satisfactorily; but, owing to the unavoidable delay in getting machinery of this kind into thorough working order, we have not yet been in a position to add anything to our returns from this source. We hope, however, to be enabled in the ensuing two months to show a substantial increase in our sales of black tin."

At the South Carn Brea Mine meeting, on Jan. 22, Messrs. F. M. Williams, M.P., W. H. Tregoning, Edward King, W. Harvey, and M. G. Pearce were elected a committee of management; Messrs. R. H. Pike and Son, the purveyors, at a salary of 8s. 6d. per month; Capt. John Day and Son, managers, at 2s. 12s. 6d. per month; Capt. John Michell, agent, at 9s. 9s. per month; Messrs. Tweedy, Williams, and Co., bankers of the company; Messrs. Geo. A. and Thos. Michell, doctors of the mine; and Messrs. John Hocking and Son, engineers of the company. The shares (5000) were allotted, subject to the rules and regulations as entered in the cost-book, and a call of 5s. per share made.

At the Pestarens United Gold Mining Company meeting, on Wednesday, the resolutions passed at an extraordinary general meeting, held on Jan. 13, were confirmed.

The Bank of England return for the week ending on Wednesday evening showed in the ISSUE DEPARTMENT an increase in the "notes issued" of 153,315 1/2, which is represented by a corresponding increase in the coin and bullion on the other side of the account. In the BANKING DEPARTMENT there was shown a decrease in the "public deposits" of 186,647 1/2; and in the "other deposits" of 217,950 1/2; together, 404,607 1/2; an increase in the "seven day and other bills" of 23,371 1/2; and in the "rest" of 8292 1/2; together, 31,663 1/2 = 372,934 1/2, and deducting this from 359,709 1/2, the decrease (800,000) in the "public securities" and 159,709 1/2 in the "other securities" on the other side of the account, showing an increase in the total reserve of 686,775 1/2.

The Great Western Mines are opening out well, and operations are being vigorously carried on in connection with the new engine-shaft, &c.

DYNAMITE.—Some successful experiments have lately been made with this material at a quarry at Oester Aker, in Norway. Three shots were fired—the second, and principal one, being on a very large scale. The bore-hole was 21 ft. deep, and 1 1/4 in. diameter; 15 lbs. of the strongest dynamite, containing 75 per cent. of nitro-glycerine, being employed as the charge. It was estimated that about 264 cubic yards of earth were displaced; but it was not considered that the whole power of the charge had been utilised, and another charge of only 2 1/2 lbs. of dynamite produced a proportionally still greater result. On the whole, the experiments were regarded as extremely satisfactory, and as proving that dynamite is decidedly cheaper than gunpowder for blasting purposes.

GOLD IN NATAL.—The following particulars have been furnished of an assay of gold from Natal:—Assay of two samples of gold-dust received by the undersigned by the ship Actaea, from Port Natal, forwarded by Mr. F. W. Redd, of Potchefstroom, through Messrs. A. W. Evans and Co., of Durban, from the Tatin gold diggings. One bottle, 15 ozs., found to contain per ton of 20 cwt. 38 ozs. 10 dwts. of gold, and 2 ozs. 10 dwts. of silver; one bottle, 150 grs., found to contain per cwt. 66 2/2 of fine gold, and 3 3/4 of fine silver. About 5 cwt. of ore not found to contain either gold or silver.—MAYNARD BROTHERS AND CO.

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## ENGINES FOR SALE.

FOR SALE, ONE 54 in. cylinder PUMPING ENGINE, 9 feet stroke, equal beam, with or without TWO 12 ton BOILERS.  
Also ONE 36 in. PUMPING ENGINE, 9 ft. stroke, with or without a 10 ton BOILER. With an addition of ONE 8 ton BOILER also FOR SALE. To be sold cheap.  
Apply to MICHELL and JENKIN, Engineers, Redruth.

ON SALE.—An EXCELLENT SLATE QUARRY, called the WAUNFAWR SLATE QUARRY, situated near HARLECH, NORTH WALES. The slates are similar in quality, colour, grain, and durability to the Penllyn slates.  
For particulars, apply to Mr. WALTER DAVIES, Bethania, Festiniog, North Wales.

TO LET, A VALUABLE COAL MINE.—Apply to Mr. GEORGE DAVIDSON, Mawley, Cleobury Mortimer, Shropshire.—Dec. 12, 1868.

TO LET.—A COAL FIELD in the EASTERN DIVISION of the COUNTY OF DURHAM, containing about ONE THOUSAND ACRES of UNWROUGHT COAL, adjacent to a current-going colliery in that district. For further particulars, apply to "G. G. S.," Post Office, Sunderland. Bridge Village, Durham.

LLANTWIT MAIN COLLIERY COMPANY (LIMITED).—Notice of a Resolution to VOLUNTARILY WIND-UP the LLANTWIT COAL COMPANY (LIMITED) having appeared in the Gazette of the 19th inst., Notice is hereby given, that such COMPANY has NO CONNECTION WHATSOEVER with the LLANTWIT MAIN COLLIERY COMPANY (LIMITED), and that such resolution or notice does not in any way apply to such last-named company.  
By order of the Directors, WM. P. BELLISS, Secretary.  
6, Martin's-lane, Cannon-street, 26th January, 1869.

GREAT NORTHERN COPPER MINING COMPANY OF SOUTH AUSTRALIA (LIMITED).—Notice is hereby given that an EXTRAORDINARY GENERAL MEETING of the shareholders of the Great Northern Copper Mining Company of South Australia (LIMITED) will be HELD at the London Tavern, Bishopsgate-street, London, on MONDAY, the 8th day of February, 1869, at Two o'clock P.M.

## THE GREAT NORTHERN MANGANESE COMPANY (LIMITED).

NEAR BALA, MERIONETHSHIRE, NORTH WALES.

Capital £15,000, in 3000 shares of £5 each.

DIRECTORS.  
RICHARD ROBERTS, Esq., Bala, Director of the Bala Banking Company.  
Sir RUSTACE FITZMAURICE PIERS, Bart., Manchester.  
H. SOUTHAM, Esq., Merchant, Manchester and Bala.

BANKERS.  
THE BALA BANKING COMPANY (LIMITED), BALA.  
AGENT AND SECRETARY AT MANCHESTER—MR. J. K. WILLIAMS.  
CHIEF OFFICES,—12, PARSONAGE, MANCHESTER.

Prospectuses and applications for shares may be made to the manager of the Bala Banking Company (Limited), Bala; or to the secretary, at the company's offices, in Manchester.

## SOUTH MERLLYN MINE COMPANY.

Mr. E. J. BARTLETT will be happy to forward upon application all particulars concerning this valuable property, which is situated in the centre of the Flintshire mining district, and surrounded by mines that have been and are making large profits.  
Address, 30, Great St. Helen's, London, E.C.  
\*A few shares for disposal.

## CWM DWYFOR (NORTH WALES) COPPER AND SILVER-LEAD MINES COMPANY (LIMITED).

INCORPORATED UNDER THE COMPANIES ACTS, 1862 AND 1867.

Capital £12,500, in 12,500 shares of £1 each,

Fully paid-up on allotment.

BANKERS.  
METROPOLITAN BANK (LIMITED), LONDON.  
SECRETARY—MR. G. CHAMBERS.  
OFFICES.  
ST. CLEMENT'S HOUSE, ST. CLEMENT'S LANE, LONDON, E.C.

Applications for shares in this remarkable mine, for prospectuses, and forms, and notices of the mine, its geological and mineral character, and extraordinary physical advantages, may be addressed to the secretary, at the offices of the company, where also specimens of the ores can be seen.

## Contract for Coals and Coke.

CONTRACT DEPARTMENT, ADMIRALTY, SOMERSET HOUSE.



THE COMMISSIONERS for Executing the Office of Lord High Admiral of the United Kingdom of Great Britain and Ireland, do hereby give notice that on TUESDAY, the 9th of February next, at Two o'clock, they will be READY to TREAT with such persons as may be WILLING to CONTRACT for SUPPLYING and DELIVERING at the Extension Works, at H. M. Dockyard at Chatham.

EIGHT THOUSAND FIVE HUNDRED TONS OF COALS, AND ONE THOUSAND TONS OF COKE, FOR BRICKMAKING PURPOSES, AND THREE THOUSAND FIVE HUNDRED TONS OF COALS FOR STEAM ENGINES.

Tenders may be made for the supply of all or either of the above quantities. Forms of the tenders and conditions of contract may be seen in the lobby of the Storekeeper-General's Department, Admiralty, Somerset House. No tender will be received after two o'clock on the day of treaty, nor will any be noticed unless the party attends, or an agent for him duly authorised in writing.

Every tender must be addressed to the secretary of the Admiralty, and bear in the left-hand corner the words "Tender for Coals and Coke," and must also be delivered at the Department of the Storekeeper-General, Admiralty, Somerset House, accompanied by a letter signed by two responsible persons, engaging to become bound with the person tendering in the sum of £20 per 100 tons for the due performance of the contract.

By order, ANTONIO BRADY,

Registrar of Contracts and Public Securities, Contract Department, Admiralty, Somerset House, Jan. 20, 1869.

## Contract for Bolt and Sheet Copper.

BY ORDER OF THE SECRETARY OF STATE FOR INDIA IN COUNCIL.

NOTICE IS HEREBY GIVEN that the DIRECTOR-GENERAL OF STORES FOR INDIA, will be READY, on or before Monday, the 1st of February next, to RECEIVE PROPOSALS in writing, sealed up, from such persons as may be willing to SUPPLY—

## BOLT AND SHEET COPPER.

And that the conditions of the said contract may be had on application, addressed to the Director-General of Stores, India Office, Westminster, S.W., where the proposals are to be left any time before Two o'clock P.M. of the said 1st day of February 1869, after which hour no tender will be received.  
India Office, Jan. 23, 1869. GERALD O. TALBOT, Director-General.

## LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Jan. 22—	Great Laxey	100	£22 8 0	Burby Port Company.
26—	East Loggias	40	11 10 6	Runcorn Smelting Co.
	Glogfach	30	17 8 0	Sims, Williams, & Co.
	Cwmystwith	50	12 1 0	Walker, Parker, & Co.
28—	Powell United	15	11 13 0	Burby Port Company.

## BLACK TIN.

Date.	Mine.	Ts. c. q. lbs.	Price p. ton.	Amount.	Purchasers.
Jan. 21—	Pedn-an-drea	10 8 3 6	—	£699 4 6	—
23—	Wheal Uny	10 8 0 27	£65 13 4	683 14 6	—
27—	North Roskear	1 16 2 3	—	120 19 10	Mellancar.

## COPPER ORES.

Sampled Jan. 6, and sold at Swansea Jan. 26.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Cape	62	30 1/2	£22 14 0	Ballycumisk	66	34 1/2	£26 17 0
ditto	42	26 1/2	19 5 0	ditto	8	9 1/2	6 6 0
ditto	50	34 1/2	25 9 6	Bradda	65	11 1/2	8 18 6
ditto	48	35	25 10 6	Spanish	68	6 1/2	4 5 6
ditto	49	36 1/2	27 10 6	ditto	6	4 1/2	3 1 6
ditto	48	36 1/2	27 4 6	Azambugeira	28	28 1/2	23 2 0
ditto	53	29 1/2	21 15 6	ditto	19	29 1/2	21 9 0
ditto	5	18 1/2	13 16 0	ditto	1	16 1/2	12 2 0
ditto	8	31 1/2	23 7 6	Lisbon	24	24 1/2	17 7 6
ditto	5	31 1/2	23 0 0	ditto	5	22 1/2	15 16 0
Berehaven	84	9 1/2	6 14 0	ditto	2	28 1/2	20 0 0
ditto	78	9 1/2	6 14 0	Copper Reg.	22	28 1/2	6 10 0
ditto	74	9 1/2	6 14 0	ditto	11	40 1/2	29 4 0
ditto	68	9	6 10 6	ditto	9	62 1/2	45 18 0
Slag	144	2 1/2	1 0 0	Copper Ore	3	8	5 10 0
Parmatta	47	15 1/2	12 0 0	Pomona	2	41 1/2	30 11 0
ditto	40	15 1/2	11 16 0	Concordia	3	33 1/2	26 4 0
ditto	3	31 1/2	23 10 0	Precipitate	1	63	47 5 0
ditto	2	26	20 0 0	Sweepings	2	10 1/2	7 19 0

## TOTAL PRODUCE.

Cape	370	£8897 0 0	Lisbon	31	£536 0 0
Berehaven	304	2024 18 0	Copper Regulus	42	877 6 0
Slag	144	144 0 0	Copper Ore	3	16 10 0
Parmatta	92	1147 13 6	Pomona	2	61 2 0
Ballycumisk	74	502 10 0	Concordia	3	78 12 0
Bradda	65	580 2 6	Precipitate	1	47 5 0
Spanish	64	266 8 0	Sweepings	2	15 18 0
Azambugeira	48	1666 9 0			



LARGE AMOUNT OF MONEY being EXPENDED in ADVERTISING in WORTHLESS PUBLICATIONS, C. H. MAY will be HAPPY to AFFORD INFORMATION to ADVERTISERS in the SELECTION of the BEST and MOST INFLUENTIAL.

C. H. MAY'S GENERAL ADVERTISING OFFICES.

ESTABLISHED 1846.

ADVERTISEMENTS inserted in all the London Provincial, Foreign, and Colonial Newspapers.

78, GRACECHURCH STREET, CITY, E.C.

### Notices to Correspondents.

•• Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt: it then forms an accumulating useful work of reference.

**LIQUID FUEL.**—It is my intention to have a small steam pleasure-boat constructed; she will be built by one of the most eminent builders in Great Britain, and will be about 14 feet long. My object in troubling you is to enquire if mineral oil could be adopted as fuel for her. I have seen some accounts on the subject in the *Mining Journal* which have prompted my enquiry. Of course, my engine will be very small, as I intend that the boat shall be manageable by one man. I should also like to know if mineral oil or creosote is explosive or not; how much in quantity a boat of the above description would consume per day of twelve hours; whether the oil is expensive or not; and what the price is per gallon? In conclusion, I should like to be directed to some firm who have tried the oil, or to any book or pamphlet on the subject.—VAPUR.

**DRAKE WALLS MINE, AND ITS MANAGEMENT.**—In the Notice to Correspondents last week, "A Shareholder" seems to be surprised at the heavy call made at the last meeting, but this would not surprise him if he were to visit the mine, and examine for himself into the state of affairs. It seems but too plain to me that, unless some alteration is made, there will be a much heavier call in eighteen months from this time. The mine, at the present price of tin, ought to make good profits, and I believe can be made to do so with proper management.—A LOOKER-ON: *Calstock, Jan. 28.*

**SCALE FOR ADVERTISEMENTS.**—To avoid the necessity of frequent application we may state our charge for general advertisements is—for six lines and under, 4s.; per line afterwards, 8d. Average, twelve words per line.

## THE MINING JOURNAL,

### Railway and Commercial Gazette.

LONDON, JANUARY 30, 1869.

#### EXPLOSIONS OF COLLIERY BOILERS.

Alike in the Derbyshire, South Yorkshire, and South Staffordshire coal fields, there have recently been accidents to boilers, and lives sacrificed. The more serious accident was that which happened on the 14th inst., at the Timber Field Colliery, near Clay Cross, belonging to Mr. THOMAS HOLDSWORTH, who is the owner of much colliery property at Clay Cross and Pilsley. Four deaths resulted, and one of the deceased was the son of the proprietor. The boiler collapsed from shortness of water and over-heating. It was of the ordinary one-flue internal furnace kind, 26½ ft. by 6 ft., and the flue 3 ft. 2½ in., made of ¼-in. plate. There were two lever safety-valves, 3 in. diameter, which weighted as they were would blow off at about 45 lbs. There were three gauge cocks at the front, but only one was in working order, and the other two had evidently not been used for some time. There had been a glass tube water-gauge, but this also had not been lately used, for only the bottom part of it remained. There was an ordinary one on the top of the boiler, with its wire passing through a gland and stuffing-box. The pressure gauge and other fittings were in good order. The point of the collapse was that at the second and third plates of the furnace crown. There the fracture commenced at a patch on the third plate, went through the line of rivets, and extended through the solid plate parallel with the ring-seam. The iron was of fair average quality, and was 5-16ths thick. A distinct water line upon each side of the flue where it had collapsed showed that at the time of the explosion the water had been about 9½ inches below the level of the top of the flue. The plates, therefore, became overheated, and the boiler went off at what is believed to have been a 40-lb. pressure. The accident, therefore, is clearly due to inattention and negligence on the part of the attendants who had the boiler in charge. These were an enginewright, who was killed, and an engineman, named WILLIAM OSBORNE, who worked under him. The latter, when he found the float down on the tube, called to the enginewright, and they both began raking out the fire. The enginewright had the rake in his hand drawing out the coals, and young Mr. HOLDSWORTH was by his side when the calamity, which they were trying to avert, happened. The other two deceased were workmen who were on the bank at the time. The accident happened at about an hour and a half after the boiler was given up by the engineman on the night-turn, and the responsibility, therefore, must be supposed to lie between the deceased enginewright and his man OSBORNE. When he took to the engine OSBORNE professes to have found the water in the boiler 6½ in. above the tube, judging by the position of the ball. The donkey-engine was then, he says, working into the boiler, and continued to work for 20 minutes; but, as may be imagined, Mr. R. B. LONGRIDGE, the engineer of the Boiler Insurance and Steam-Power Company, Manchester, who examined the boiler after the accident, at the instance of Mr. EVANS, the Government Inspector of Mines, believes that OSBORNE is in error as to the quantity of water in the boiler when he took to the engine. The man may have been equally in error in his statement as to the time during which water was afterwards passed in. Anyhow, it is clear that there was a shortness, and to that cause the collapse, with all its consequences, is to be attributed, for the boiler was generally well constructed.

Provide what apparatus you may, inattention and negligence on the part of the workmen who have them in their charge will not prevent disarrangement and accident. Still colliery proprietors will do well to leave no room for question that they have furnished their boilers with all the appliances for safe working which can be procured. Mr. LONGRIDGE's report upon those attached to the boiler in this case, from which we have taken our own description, shows that, although originally furnished with tolerably abundant safeguards, yet it was not so amply protected at the time of the accident. The enginemen had evidently to depend for guidance chiefly upon the float, which Mr. LONGRIDGE correctly said "is sufficient for a water-gauge," "but," he added, "I don't like it so well as a glass tube." Nor do we. If the packing of the float should be screwed too tight it would thereby be at any time put out of order. It does not, however, transpire that it was screwed too tight in this instance. A float-wheel may be tested by a careful engine-tenter in the dark, and this one was so tested by OSBORNE at 10 minutes to 6 o'clock on the morning of the accident; and, without a light, at a quarter past seven he found that the water was on the tube. But a man wanting in care may trust too much to the sense of feeling, and the carefulness resulting from a necessity for looking at a glass gauge, as well as feeling a float-wheel, be abandoned. Whilst the float need not be given up, it would be wise to continue to supplement it with the glass gauge, which the engine-tenter should be required rigidly to watch. At the concluding inquest in this case, which was held yesterday (Friday) week, the jury did not return a verdict of a criminal character, for the Coroner had directed them that probably the enginemen had been deceived in measuring the water, or by the machinery being out of gear; and, as theirs were the lives in jeopardy, he did not think there was evidence to prove any criminal negligence. The verdict, therefore, was that of "Accidental Death."

Engine-tenters would do well to bear in mind that if they should find their boiler in a similar condition to that in which this one was found immediately before the accident they should neither rake out the fire nor blow-off steam. Raking out will increase the heat, and blowing-off will be even more dangerous. Their alternative is to put down the damper, and get out of the way as quickly as possible.

An accident of a much more destructive character in reference to the demolition of property than that in Derbyshire, but happily unattended with loss of life thus far, happened last Wednesday, about noon, in the South Yorkshire district, at the Aldwarke Main Colliery, belonging to Messrs. WABING, SHAW, and Co., and situated at Ra-

marsh, about two miles from Rotherham. One of the three side-by-side 36 ft. by 4½ ft. boilers, belonging to the very powerful drawing-engine of the pit, exploded, with a report which was audible several miles around. "In a moment," our account has it, "the engine-house became a mass of ruins, the gearing at the pit mouth was blown away, and bricks and timber were flying about in all directions." It was the boiler that lay nearest to the engine which burst, and in its riven condition seems to have darted in the right line to upset the erections; but although there were some 30 people upon the bank, yet the worst personal injury at present known appears to have been a fractured limb. There were 282 men in the pit at the time, and the customary rough and ready means had to be adopted for bringing them up. As may be imagined, some hours elapsed before the last man was landed. The information to be hereafter obtained upon this accident will prove of great interest, because of the contrast which the misfortune presents to that at Clay Cross. There the boiler was moved only slightly from its seat; nevertheless, four persons are killed. But here pieces of the boiler, weighing perhaps 2 tons each, are impelled several hundred yards. A collapse is not, therefore, of necessity a less disastrous termination to the life of a boiler than an explosion.

The accident in South Staffordshire has not, happily, been attended with consequences of so serious a character. There, however, the engine-tenter has been killed. The occurrence happened on Tuesday afternoon, at the Whitehall Colliery, Greet's Green, West Bromwich. This was an explosion and not a collapse, and the boiler went off in three pieces, scattering the brickwork of the engine-house all around, and burying the engine-tenter in the ruins. Several persons were injured, not, however, seriously, and amongst them Mr. J. A. KENDRICK, the proprietor of the pit, who was standing upon the adjoining canal wharf at the time of the accident. The official enquiry is still on, and we do not, therefore, discuss the accident further at this time.

We have said above what we think it is desirable that colliery proprietors should do in order to make their machinery of this class as complete as possible. Let us now remind workpeople of the means which employers have in their power to punish wilful negligence. By the Master and Servants Act, passed late in the last Parliament, an employer can bring a claim against his workpeople for damage resulting from such conduct, and, in default of payment, he can get them summarily committed. A case in which an engine-tenter at a South Staffordshire iron works allowed the plates of his boiler to become red-hot, through neglecting to see that the blow-cock was closed before he began to fire, was adjudged two months' imprisonment, in default of the payment of a fine of 10*l.*, was noticed in the letter of our South Staffordshire correspondent last week. Well, the man deserved his punishment, for the negligence took place at a works not far from that at which the explosion which killed some 12 workpeople happened only a few months ago, in the same district. It is clear, however, that the lesson which such occurrences should teach are not easily learnt by some men. This fact is not only deducible from the case just mentioned, but it is further conclusive from the circumstance that at another ironworks in the same district there happened on Christmas Eve, also from the boiler being allowed to get short of water, an accident, which happily resulted in no fatal consequences. A rent was made in the side of the boiler, and the bricks were scattered, but no further damage was done.

This last case brings up again the matter of inspection and assurance. Neither had been resorted to in the case of the Clay Cross accident; but the boiler which opened on Christmas Eve was under inspection. It was situated at the iron works of Messrs. FLETCHER, SOLLY, and URWICK, Willenhall. Whilst inspection did not prevent an accident, it may be inferred that it obviated a serious calamity. If there had been inspection or assurance at Clay Cross, the importance of the tell-tales which when the boiler was laid down were affixed to it being continued would have been pressed in the reports of the inspectors. Even then, no doubt, the catastrophe might have occurred, but everyone must conclude that it would have been less likely to have happened.

#### THE NORLEY COLLIERY EXPLOSION.

The inquest upon the eight deceased who were killed by an explosion of fire-damp on Dec. 21, at the Norley Colliery, near Wigan, has terminated in a verdict which inculcates no one, but which contains some recommendations. The text of the verdict is as subjoined:—"That the deceased came to their deaths by an explosion of gas in Dauber's place, caused by the firing of the shot; but we have no evidence to show how or by what means the gas accumulated. We recommend that the firemen examine the working places every day before the men commence work, and mark the day of the month on the roof close to the face when they have ascertained it to be safe. We further recommend that the proprietors furnish the safety-lamps and keep them in repair, and see that the gauges, &c., are examined before they are allowed to go down the pit."

The decision of the jury was arrived at on Wednesday. The greater part of the day was occupied with the evidence of Mr. PETER HIGSON, the Government Inspector, who was undoubtedly of opinion that the gas in the mine had been fired by a shot, and was particularly emphatic on the necessity of a very close inspection of the lamps. Next week we hope to review the leading facts brought out in connection with this accident.

#### UNIONISM, AND ARBITRATION IN THE IRON TRADE.

Information reaches us from two of the large iron-making districts which, though of a different character in each case, yet, taken together, lead to the same inference. From the North of England it is communicated that attempts are again being made to get up meetings of iron-workers to secure a rise of wages, but that, so far, they have been only sparsely attended. The proclamations by which the meetings were summoned bear the stamp which characterised those that incited the men to the prolonged opposition to the only course which the masters could pursue, and which ended so disastrously to the Union some time ago. As a body, the men are sick of the dictatorship which "By Order of the Committee" implies; and whip though "the Committee" may, the dead horse will not respond. The workmen are tired of the incessant agitation, which is the life of two or three men, who, after moving about in different directions, seem now to have got back again to the North. Operatives who depend for their livelihood upon their industry at the mills and forges are in far better position to understand the exact condition of trade than are their would-be advisers. So soon as the right time comes for obtaining an advance in the present scale of wages paid they will get it, without the interference of "the Committee." Their masters will be only too ready to avail themselves of the condition of the market by which such an advance will be possible. That time, however, is not yet, as may easily be imagined, when it is seen that only the last weekly report upon the Continental Iron Trade shows that French and Belgian firms have just secured orders embracing a total quantity of upwards of 75,000 tons of rails, and that there is a probability of their getting a further order of 20,000 tons; and such reports are not the exception. Certain Unionists are prone to assert that they know better than their masters when a rise in prices can be obtained. If they think that this is the time they are hardly good strategists. By-and-by, and that without a great deal of delay, it may be hoped that, what with some of the foreign houses having filled up, and the general demand having greatly increased, we shall be able in this country to look for more money for our iron. That state of things, however, must exist before there can be any advance of wages. So soon as the time comes no one will more joyfully recognise it than the employers, for they are now giving more money for their pig-iron, whilst they are receiving, as a rule, less for the finished article. They have, therefore, a much more powerful motive than any which "the Committee" can suggest why they should put up the prevailing list at the earliest possible date.

From South Staffordshire the information is that Unionism amongst the ironworkers has almost entirely died out. The *Mining Journal* has on previous occasions drawn attention to that fact, with relation in particular to the puddlers' Union. Still the millmen retained some show of organisation, and their society was decidedly the more powerful. But the millmen are now, too, abandoning Unionism. Arrangements are in progress by which their funds will be divided, *pro rata*, and their association be broken up. This step has been hastened by the secretary of the millmen's Union, who is himself an ironworker, having resolved to associate with two or three others, and take to one of the small ironworks, now without occupants, in South

Staffordshire. But it is not improbable that the contemplated abandonment of the Union may have led the secretary to take the course which he is now pursuing. Certain it is that for sometime past our correspondents have gathered that the members of the association have complained that they were not being so heartily supported by the mass of the millmen as they conceive they ought to be; that, in fact, a small proportion were, by the maintenance of the association by the necessary contributions, fighting the battle of the whole. Of this they have become sick, and were disinclined that it should continue. To such a feeling the razing of the society is, in all probability, chiefly due.

We would not attempt to hide the satisfaction which we feel at the decadence of Unionism in the ironmaking districts. Our satisfaction, however, is not owing to any desire that the men should be without any legitimate help which they think they can obtain from mutual trade combination; but rather because the way seems more than ever before open for the establishment in the different districts of Boards of Arbitration and Conciliation after the fashion of the Nottingham plan, or of Arbitration Tribunals, such as that established by Mr. RUPERT KETTLE, of Wolverhampton. The Cleveland ironmasters have begun to discuss the subject, and though there are more difficulties in the way of adapting the proceedings of "the wise men at Nottingham and elsewhere" to the different branches of the iron trade, than there are in applying them to the hosiery or the building or the cotton trades, yet the Northern ironmasters believe that those difficulties are not insuperable. We are inclined to look upon the forsaking of Unionism amongst the ironworkers, to which we have drawn attention, as indication that the men themselves entertain similar notions. They believe that they can arrive at all the good results contemplated in trade Unionism by a much less costly and cumbersome appliance. In brief, their conduct indicates that the spirit of the age is operating in their case. The tendency to arbitration and conciliation with a view to the averting of war, either national or social, is a characteristic of these times. Peace is more dearly cherished now than at any other period in the history of our nation, and in trade matters the great bulk of the men hate strikes as heartily as their masters hate them. The Manchester operatives who, by their very admirable conduct at the time of their recent terrible distress, have made themselves a name in history, and who may, therefore, be fairly assumed to be amongst the wisest and most prudent of their order, are amongst those who have just established a Board of Arbitration for the adjustment of differences between themselves and their employers. Is it not right to infer that the operative ironworkers have determined that they will not be behind other classes of artisans in this particular evidence of progress? The masters in all the different ironmaking districts will do well to avail themselves of the present juncture to arrive at a definitive conclusion as to the adaptability of arbitration to their particular industry.

#### STANNARIES LAW AMENDMENT.

The draft Bill for effecting the amendment of the Stannaries Laws, so as to adapt them to the present requirements of mining enterprise, has now been prepared by Mr. THOMAS CORNISH, of Penzance, and will be thoroughly discussed at the meeting to be held at Truro on Monday. Although no doubt some alterations will be necessary in order to meet the wishes of out-adventurers (for it must be admitted that at present the Bill shows enormous consideration for the Cornish interest), the manner in which the views expressed at the meetings in the county have been reflected in the Bill entitles Mr. CORNISH to the utmost credit for the large amount of professional skill he has displayed in the matter. As a complete abstract of the Bill is subjoined, it will be preferable rather to leave it for the consideration of those interested than to express an opinion as to the probable operation of the measure in the event of its becoming law. The difficulty of dealing with out-adventurers in mines within the Stannaries has ever been complained of in Cornwall and Devon, the law, as it previously stood, securing them, it is said, all the advantages of the Cost-book System, although an unfair proportion of the responsibility had to be borne by those residing in the vicinity of the mine. By the proposed Act all adventurers will, it is considered, be placed in an equally favourable position; the uninterrupted working of the mines will be secured; in-coming shareholders cannot be prejudiced by the existence of heavy liabilities for debts incurred, perhaps, years before their connection with the undertaking, and the servants of the company will be secured against the loss of their hard-earned wages in the event of the working of the mine being discontinued. The Bill introduces several new features into the Cost-book System, and as the fear has been expressed by many out-adventurers that the proposed Act will operate much more harshly upon those who supply the capital than either the "Companies Act, 1862," or the law by which Stannaries mines are at present regulated, much caution should be exercised in amending the present law. The subjoined is an abstract of the draft Bill:—

- PRELIMINARY.**
- 1.—The short title of the Act is to be "The Stannaries Act, 1869."
  - 2.—Interprets the terms Stannaries, Vice-Warden, Court, Registrar, Purser, and Cost-book—the latter to include all books and papers relating to the business of the mine.
  - 3.—The Act extends only to mines within the Stannaries, and subject to the jurisdiction of the Vice-Warden.
  - 4.—Nothing in the Act applies to companies, unless they be expressly mentioned, registered under the Companies Act, 1862.
  - 5.—When the Act requires special notice to be given of anything to be done at a meeting, the notice must be served on the several shareholders 10 clear days before day of meeting, and must specify place and time of meeting and the special business to be done.
  - 6.—A resolution is special when passed at such meeting by the votes of three-fourths of all the shareholders, and confirmed by a majority at a second special meeting, to be held not less than 14 days nor more than one month afterward.
  - 7.—By special resolution the condition and regulations of the company can be altered or new ones made; but such conditions and regulations must not be inconsistent with the Act, and will have no effect until allowed by the Vice-Warden.
  - 8.—Notices may be served personally or by post to the address entered in cost-book; proof of posting to suffice, and time of service to be time of delivery in ordinary course.
  - 9.—Each purser must, as to existing companies, within two months of the passing of this Act, and as to new companies within one month of the date of formation, enter in the cost-book accounts showing the actual financial position of the company at the time of entry, including accounts of the assets, credits, and liabilities, with cash accounts and accurate lists of all the shareholders, with their respective addresses, corrected from time to time as occasion requires (notice of change of address must be given to the purser in writing), and all other accounts, documents, and things which the purser is for the time being required to enter therein by the custom of the Stannaries, or by the directions of the companies.
  - 10.—Any creditor, and any shareholder personally, or by agent, may at all reasonable times inspect the cost-book, and may take copies, or require the purser to furnish copies, at the price fixed by the regulations.
  - 11.—The Registrar is to keep a "Register of Pursers," showing the companies for which they act, and every person acting as purser must, within one month of passing of Act or formation of company, procure himself to be registered in the Register, with the name of the company by which he is appointed.
  - 12.—The Registrar may remove the name of any person from the Register of Pursers on his own request in writing, or on proof that he has ceased to be purser, or on proof of death.
  - 13.—There is to be no fee for the entry or removal of a name from the Register of Pursers.
  - 14.—Any person may search the Register of Pursers.
  - 15.—The penalty for acting as purser, without being registered in the Register of Pursers, is 5*l.*, and not exceeding 5*l.* per day for continuing so to act; and the penalty may be sued for and recovered for the benefit of the person suing, with costs.
  - 16.—If a purser neglect to make in the cost-book any entry which the Act requires, or refuse the inspection authorised, or to furnish extracts, if required, any creditor for 5*l.*, or upwards, or any three or more shareholders, may apply for an order to compel the purser to do what he has failed to do, and the Court may make such order as it thinks just, and also for the payment by the applicant or by the purser of the costs of the application.
  - 17.—At any meeting with special notice, at which there are present in person, or by proxy, at least one-sixth in value of all shares, the accounts may be audited, and a call made, by the votes of three-fourths in value of the shareholders so present.
  - 18.—A call may be made to defray estimated expenses to be incurred within two months of date of meeting.
  - 19.—Where a call has been rejected by a meeting, one-sixth in value of the shareholders may apply to the Court for an order directing the company to make a call.
  - 20.—If each of the accounts of a company during six months have shown a loss, and no sufficient call is made by the company, any creditor for 5*l.*, or upwards, may give notice to the purser that he desires that a call should be made, and if the purser does not within ——— satisfy the creditor that a sufficient call has been made, the Court may be applied to for an order directing the company to make a call.
  - 21.—The order of the Court as to making a call is to have the same effect as a resolution of the company making a call.
  - 22.—The Court, in addition to its ordinary powers, may enforce any order made



by to a purser's petition, for calls or expenses, in the same way and to the same extent as the Court of Chancery in England.

#### TRANSFER OF SHARES.

25.—A company is not bound to recognise a transfer until all calls made thereon are settled.

26.—Nor to recognise the transfer of a fractional part of a share.

#### ENFORCEMENT OF CLAIMS.

27.—Money payable by a shareholder to a company becoming due after the passing of this Act is to be deemed a debt due from a shareholder to the company, and recoverable by the purser. The rights and remedies given by this section are to be cumulative.

#### FORFEITURE OF SHARES.

28.—If a shareholder fail to pay a call on the appointed day, the company may serve a notice on him, requiring him to pay call, with interest and expenses, and notifying that in case of failure the share will be liable to forfeiture.

29.—If the notice be not complied with, the share may be forfeited by a resolution of the company.

30.—The shares so forfeited are to be carried to "The Account of Forfeited Shares," and are to be deemed the property of the company. They may be sold by auction or otherwise, and shareholders may purchase them.

31.—Where a shareholder fails to pay on more shares than one, only so many as it is estimated will be sufficient to liquidate the calls due and the expenses must be sold, any surplus derived being payable to the shareholder.

32.—If the calls, interest, and expenses be paid by the shareholder before the forfeiture of the share is made, it is to revert to the person to whom it belonged.

33.—A statutory declaration in writing by the purser that the call was made, notice served, default in payment made, and share forfeited by resolution of company is sufficient evidence against all persons interested in the share, and the purser's receipt constitutes a valid title to the purchaser.

34.—Where a share is forfeited the holder thereof shall, nevertheless, be liable to pay all calls, interest, and expenses payable on or in respect of the same at the time of forfeiture.

#### RELINQUISHMENT OF SHARES.

35.—Where a share is relinquished it must be carried to "The Account of Relinquished Shares;" it is to be deemed the property of the company, and may be disposed of as the company direct, and any shareholder may purchase it, if sold.

36.—Upon relinquishment the machinery and materials are to be valued, according to Statutaries custom; if the balance be against the relinquishing shareholder, he is to pay the amount to the purser on demand; but if the balance be in favour of the relinquishing shareholder, he is to "be deemed to have abandoned it by the act of relinquishment."

37.—The company is not bound to recognise the relinquishment of a fractional part of a share.

38.—Places a relinquished share in the same position (see sec. 31) as forfeited shares.

#### SALE OF MINE.

39.—Without prejudice to the provisions of the sets, the company may, by special resolution, sell the mine, sets, machinery, and materials as a going concern, but not until public notice has been given by advertisement inserted once in each of four successive weeks in a newspaper published in the county in which the mine is situated.

#### WINDING-UP.

40.—On a company being wound-up by the Court persons who have ceased for two years or more before date of petition are not to be liable to contribute to the assets of the company.

41.—Mining companies (including those under the Companies Act, 1862) may be wound-up in County Courts within the Statutaries, which are to have the same jurisdiction as the Vice-Warden's Court, when the debts do not exceed 500*l.*

42.—Jurisdiction to be exercised as provided by sec. 41 of the Companies Act, 1867.

43.—Upon winding-up a mining company (not less than two months after the passing of the Act) the amount due to agents, clerks, miners, labourers, and others employed about the mine in respect of not exceeding three months' salaries or other earnings must be paid in priority to all other debts of the company.

#### SAVING.

44.—The Act is not to take away the right of creditors in respect of debts or liability incurred before the expiration of two months from the passing of the Act.

#### THE COURT, PROCEDURE, &c.

45.—The Vice-Warden may, with the sanction of the Lord Warden, appoint a Deputy, and all acts done by the Deputy are to have full force and effect.

46.—Confers power on the Lord Warden to appoint Deputy Vice-Warden in case of Vice-Warden's inability to do so.

47.—The Deputy has all the powers, authorities, and privileges of the Vice-Warden.

48.—An affidavit may be used in any proceeding in the Court if sworn before any Commissioner to administer oaths in Chancery.

49.—The power of the Vice-Warden under Sect. 14 of 6 and 7 William IV., cap. 106, is to be extended to the making of rules and orders for the serving by post or otherwise of notices, writs, and other documents not requiring personal service; the issuing of injunctions by the Registrar where they are now issued by the Vice-Warden on motions of course; and the closing of offices during vacation, subject to the restriction that the Court shall be open for the receipt and payment out of money under order of the Court.

The preliminary sections, and those relating to meetings, do not appear to require particular notice. With regard to the sections concerning accounts, and the registration of pursers, it is difficult to see the object of the registration, unless it be to enforce the keeping of the books and documents in proper order, and the furnishing of extracts when required. Of course, it may be desirable, so far as the shareholders are concerned, to place this responsibility upon an individual instead of upon the company, but some difficulty might arise in enforcing the penalties in the event of the purser being a mere clerk, at a small salary; and as the defined duties of a purser are only such as any ordinary merchant's clerk could well perform, it may be that officers above that class would not be appointed.

Another novel feature in the Bill is, that it practically gives creditors a voice in the internal management of the company, so that a man may induce the company to become indebted to him, and then compel the shareholders to make calls to repay him, whilst at present he has to depend upon his judgment as to the respectability of those whom he credits. The 34th section is another which is worthy of careful consideration, as there is a slight want of mutuality, the relinquishing shareholder losing whether the balance is against him or in his favour; yet the power of relinquishment upon equitable terms, now to be abolished, is one of the principal recommendations which the Cost-book System possesses. Unless the wishes of those who provide the money for working the mines, as well as of those who superintend its expenditure, be consulted, even those who have resolved upon the amendments might regret their resolutions being carried into effect. But as the question of special legislation for mines is one in which a very large number are deeply interested, ample space will be afforded in the Journal for the thorough discussion of the subject.

**THE SHIREOAKS COLLIERY.**—In the Mayor's Court, Guildhall, on Monday, the attachment of "Plant v. the Shireoaks Colliery Company" came before the Recorder, the judge of this Court. Mr. Reuben Plant had attached all goods and effects of Mr. James Nugent Daniell, in the hands of the Shireoaks Company, to cover a debt sworn to be due from Daniell to Plant. After hearing counsel on both sides, the learned Recorder decided that Plant was entitled to 781*l.* 6*s.*, the amount of dividends then due.

**THE CHANNEL BRIDGE.**—It has been suggested to us, in reference to M. Boutet's proposed Channel Bridge, which we noticed in last week's Journal, that it might not only be made the medium for hourly postal communication with Paris, as explained in the Journal of Jan. 9, but might also be a most valuable aid to telegraphic communication, as the risks and uncertainty to which the submarine cables are liable might be obviated by carrying them over the bridge, where they would not be liable to injury, and, if they were injured, could be easily examined and repaired. This seems to be worth the attention of the continental telegraph companies.

**MINING ENTERPRISE IN THE OTTOMAN EMPIRE.**—THE RUSSIAN POLICY TOWARDS POLAND AND TURKEY.—For some time past frequent notices have been published in the *Mining Journal* pointing out the strenuous efforts being made by such able officials as Halil Pasha and Ahmed Bey to secure the more energetic development of the mineral resources of the Ottoman Empire, so that a lively interest cannot fail to be felt in all that relates to the general condition of that country. For this reason the very interesting brochure just issued (through Mr. E. Denton, of the Palais-Royal, Paris), entitled "Le Dossier Russe dans la Question d'Orient—La Politique de la Russie envers la Pologne et la Turquie," by "Un ancien Diplomate en Orient," will be received with pleasure by a large number of readers. It is beyond question that the internal vitality of Turkey is far less known than it should be, both in France and England, the natural consequence being that the immense industrial resources of the empire, if not neglected, are, at least, deprived of the aid they might reasonably expect to derive from the employment of capital from Western Europe for developing them. The comparisons drawn in the work in question between Turkey and Greece and between Turkey and Russia are admirable. It is very truly observed that the Turkish Government is at once the most charitable, the most hospitable, the most tolerant, and one of the first in the world; that the Turks are better Mussulmans than we are Christians; that whilst in Russia the religious periodicals are most insulting to Turkey, you observe nothing of the same kind in the latter empire; and that it compares favourably with Greece, where brigandage has become a national industry, and apparently the only one that prospers. And if we turn to the commercial aspect of the question, the result is equally favourable to the reputation of Turkey. The writer puts this matter forward tersely and truly—"With what do you reproach the Turks? Is it for the slowness of their movement in the path of progress? Every Government, unless perhaps Russia, has publicly declared a hundred times, and in various ways, that this movement is rapid and continuous; and when, in open Parliament, Lord Palmerston said that Turkey had made in 30 years more reforms than any other nation, he only stated a great and incontestable truth, which is found in all the chancelleries, in all reliable journals, and in all periodical publications. Has the same thing ever been said of Greece? No one can ignore the fact that in a few years the business transactions of Turkey with Europe have quintupled, and that the trade of the port of Constantinople is one of the most considerable of the globe. And is it not

certain that with a Sultan so liberal and firm as Abdul Aziz, surrounded by counsellors so eminent for their knowledge, their experience, and their patriotism, this progress will continue? That "Un ancien Diplomate en Orient" is intimately acquainted with the subject on which he writes is beyond question, and the animated and attractive style which he has chosen for expressing his thoughts will ensure every word being attentively read and carefully considered.

#### MINING, METALS, AND MINERALS—PATENT MATTERS.

BY MICHAEL HENRY,

Patent Agent and Adviser, Momb. Soc. Arts, Assoc. Soc. Eng.

**W. RYB,** of the Low Moor Iron Works, Oldham, engineer, has specified an invention for apparatus for supplying fuel to steam-boiler and other furnaces. This invention is particularly applicable to steam-boilers furnished with one or more internal flues, containing the fire-grate or grates, but it may be applied to boilers without flues, and to other furnaces, and it consists in driving the apparatus for distributing the fuel evenly over the said grates. The fuel is fed into a hopper, and then passes between crushing or feeding rollers, and it is distributed by a fan, to which a reversing motion is applied, so as to cause it to revolve first in one direction and then in the other. The reversing motion may be obtained by an open and a crossed strap, in the same manner as the reversing motion of a planing-machine or otherwise. The feed-rollers are driven by independent gearing, whereby the rollers can be turned round either faster or slower, or stopped and started when required, without affecting the motion of the fans, which are continually in motion. The damper leading to the chimney is connected to the strap-forks of the driving-straps, so that when the strap that drives the feeding-rollers is on the loose pulley, the damper will be closed, or partially closed. The position of the dampers and the motion of the feed-rollers are regulated by the pressure of the steam. A piston or float, acted upon by the steam, is connected with the levers and rods in connection with the damper. The modes of applying the pressure of steam to regulate the position of the damper may be considerably modified.

**C. E. BROOMAN,** of London, has obtained a patent for apparatus for the manufacture or production of carbonic oxide hydrogen and carburetted hydrogens: a communication to him from abroad by the company or society Cyprien Tessié du Motay and Company, of Paris. This invention consists in a combination of gaseous apparatus, capable, without notable loss of calorific, of transforming coal or other fuel into—first, carbonated hydrogens; secondly, pure hydrogen, mixed with carbonic oxide or oxide of carbon; and, thirdly, carbonic oxide, mixed with azote. These products are collected separately, and are employed for the production of high temperatures, or may also be employed for the production, without smoke or fumes, of high or mean temperatures; or for the production of neutral or oxidising flames for the metallurgical treatment of metals; or for the carburisation of iron; or for the reduction of metallic oxides; or for the chemical displacement of sulphur, chlorine, fluorine, and sulphuric acid, combined with alkaline, alkalino terrous, and metallic bodies. The apparatus produces simultaneously and alternately carbonic oxide, pure hydrogen, and carbonated hydrogens.

**THE NUISANCE FROM GALVANISING WORKS.**—The letter of our Wolverhampton correspondent gives a description of an apparatus, provisionally patented by the Wolverhampton Corrugated Iron Company, the immediate object of which is to get rid of the nuisance which arises from galvanising works, but which is capable of very extensive application, and the necessity for which will increase as chemistry enlarges, as it is rapidly doing, its industrial applications. The process appears simple, and is spoken of as most effective.

**THE CORNISH ENGINE IN THE NORTH OF ENGLAND.**—In our Correspondent's report from Northumberland and Durham, in last week's Journal, reference was made to the drainage of the Wallsend Colliery, Newcastle-upon-Tyne; it will, doubtless, interest our readers to learn that the powerful Cornish engines alluded to as being at work at Hebburn, as well as erecting at Wallsend, were made, and are erecting, by Messrs. HARVEY and Co., of Hayle Foundry, Cornwall, showing that even in the great northern centre of the coal district the economy in fuel, and suitability of these pumping-engines, are being understood and adopted; and one of the best proofs that can be offered of the soundness of the views so often urged in the Journal, that the true test of the respective relative merits of engines will be best found by an examination of the quantity of fuel consumed at the pit's mouth, this is now commanding attention.

**IMPROVED PISTON PACKING.**—A simple and durable kind of piston-rod packing—McIntock's Patent Metallic Packing—is at present being extensively introduced by Mr. F. Tuxford, of Cannon-street; it consists of rings made of alternate layers of linen and India-rubber cement, the whole being compressed in a powerful apparatus, in order to harden and consolidate it. The inner side of the ring has a thin copper lining, which is held firmly in its place by means of claws, which double over and into the linen. The rings are dense, elastic, and possess all the desirable qualities of good packing. With regard to durability, it is claimed that they will last five months in locomotive, and from twelve to eighteen months in stationary engine-work, in which case they will be entitled to a place amongst the best packing rings extant.

**COPPER IMPORTS.**—The imports of copper, unwrought and partly wrought, into the United Kingdom, amounted to 85,800 cwt. in November, as compared with 57,680 cwt. in November, 1867, and 27,240 cwt. in November, 1866. The imports of Chilean copper figured in these totals for 71,520 cwt., 36,480 cwt., and 18,680 cwt., respectively. In the 11 months ending Nov. 30 last year, the imports of unwrought and partly wrought copper amounted to 380,460 cwt. (of which 396,640 cwt. were Chilean), as compared with 504,780 cwt. (348,560 cwt. Chilean) in the corresponding 11 months of 1867, and 300,320 cwt. (181,500 cwt. Chilean) in the corresponding 11 months of 1866. In the 10 years ending 1867 inclusive, the imports of unwrought and partly wrought copper were as annexed:—1858, 128,280 cwt.; 1859, 218,060 cwt.; 1860, 235,060 cwt.; 1861, 315,760 cwt.; 1862, 268,020 cwt.; 1863, 243,240 cwt.; 1864, 498,780 cwt.; 1865, 434,340 cwt.; 1866, 420,000 cwt.; and 1867, 593,260 cwt. This branch of our imports has thus very greatly extended during the last ten years.

**ANNUAL YIELD OF GOLD IN AUSTRALIA.**—The Australasian gold fields are evidently destined once more to astonish the mother country by an export of gold as large, or nearly so, as that which signalled the years immediately succeeding the first discovery of the wealth contained in the colonial soil. The import from them into Great Britain has varied within the last 11 years from over 9,000,000*l.* sterling in 1858, to as low as 2,650,000*l.* in 1862. In 1867 the import was 5,800,000*l.*, while up to the end of November last year it amounted to 6,350,000*l.* The Board of Trade Returns for December are not yet published, but they will add something like 400,000*l.* to the total import for 1868. No doubt the discovery of the New Zealand and Queensland gold fields has tended to augment the import of the last and the two or three preceding years, but New South Wales also increased its delivery in the 12 months just ended. The export to Great Britain is, however, but a relative test of the produce drawn from these auriferous regions. Gold is required for the Sydney Mint to furnish the coin circulating in the colonies themselves, and is exported to other parts than to Great Britain—as to China, and the East Indies generally. The total value of the gold sent home to this country from Australasia since 1858 may be set down as over 70,000,000*l.*; but to arrive at the amount of the precious metal extracted from the soil there must be added to that figure whatever was retained in the colonies as the circulating medium for the payment, for instance, of the diggers' wages, or for the general expenditure, as well as the sum sunk in plant and machinery. Thus, in 1866 the mining property in the colony of Victoria was estimated to be worth 11,000,000*l.*, and to what extent this may be increased it is impossible to say, since Mr. Selwyn, the Government Geologist, declares that Victoria has an area of "30,348 square miles, in any part of which there is a probability of remunerative gold deposits being found, either in veins or in alluvial deposits." An impression has got abroad in England that all the rich lodes have been hit upon, and made to yield up their treasure. Every day's experience in the colony proves this notion to be utterly erroneous. Even in and about Ballarat, which early won the reputation of being the most magnificent El Dorado the world had yet known, there are 22 mining companies to be named that have returned to their shareholders dividends of 2,225,000*l.*, on a called-up capital of barely 890,000*l.*, and yet this sum has been obtained, over and above expenses, from only 250 acres, out of an area of 3000 acres held by them on lease or otherwise: 40,000,000*l.* sterling have been taken up from the ground now covered by the houses and streets of Ballarat; and there are indications unmistakable to the miner, now instructed by 15 or 16 years' experience, that the course of the river which once bore the gold in its waters has but to be followed, and deposits greater than any yet found will reward a scientific and persistent search. But to effect this, a larger capital, more powerful machinery, more hands—more everything, in short—must be set to work, over a greater breadth, and with a more simultaneous

action than Victoria has yet witnessed. In this way the gold of an extensive district will be gathered in a brief time, the land will be less free for the agriculturist or the builder, and the present generation will reap the benefit that is under the haphazard system of mining would have been left to a distant future. Mr. William Colliard Smith, a magistrate, and a gentleman of long experience and success in mining matters, is now in London, commissioned to lay before English capitalists the details of a plan of the necessary magnitude, embracing operations over an area of rather more than 5000 acres, selected for their actually proved auriferous quality, or for their proximity to mines now in prosperous working, and thence pretty well ascertained to comprehend within them continuations of paying "leads." Mr. Smith comes recommended by long connection with the mining concerns of Ballarat, and by the fact that the confidence of his townsmen has often placed him at the head of various important municipal undertakings, besides having intrusted him with the care of their local interests as Mayor of their Administrative interests, and as their representative in the Colonial Parliament. This new enterprise, which he has been deputed by his fellow-colonists to introduce to the notice of home investors, will be brought before the English public early in February.

#### REPORT FROM NORTHUMBERLAND AND DURHAM.

**JAN. 28.**—On the whole, trade has improved a little lately, and there is a feeling that as the spring advances more life will be imparted to the coal, iron, and general trades of the district. Increased activity in the Coal Trade is particularly apparent in Durham, many of the colliery lines of railway being fully occupied; and at the Tyne Dock and other shipping places much activity prevails. The deep sinking at the Harton Colliery is progressing well, and the main seam is expected to be reached very shortly—that is, the Bensham seam, which in that locality affords excellent house coal. The seam is also of considerable thickness. The seam referred to last week as worked at Felling Colliery is generally supposed to be the Brockwell—that is, the seam known by that name at Nosword, Benwell, and that district generally. The celebrated Busty seam at Marley Hill, being held to be the same Brockwell by many authorities, but by others it is held (that is the Busty) to be the 5*th* and 6*th* seams on Tyne combined. As so many faults intervene, it is, perhaps, rather difficult to determine this very interesting and important question.

The late rise in the price of iron is well maintained, and makers have plenty of orders on their books, so it is very probable that shortly a further advance may be expected; however, it must not be forgotten that the late rise was caused to a considerable extent by buyers for forward delivery, the conviction being that the minimum price had been reached. Caution is, therefore, necessary, and some time must elapse before the real permanent nature of the demand is ascertained. Should the present price be maintained, which appears pretty certain, and a further rise take place, a number of additional furnaces may be expected to be blown in, and of course the advancing rates will then have to struggle against increased production. The men are already showing signs of uneasiness, and should the price advance much further they will undoubtedly make serious claims to a share in the increased profit. Quotations remain as before—No. 1, 4*s.*; No. 3, 4*s.*; and No. 4, 4*s.* 6*d.* The trade for manufactured iron is also brisk, there being a good demand for bars, angle-iron, ship-plates, &c. The activity in the iron shipbuilding trade causes a demand for this kind of iron. Increased activity in the coke trade is also noticeable in South Durham. Mills are in course of construction at South Stockton, intended to develop the steel trade, the steel to be manufactured from Cleveland iron. Mr. B. Samuelson, M.P., has become the lessee of the works for this purpose, and Mr. Heaton's process is to be adopted in the manufacture, the refining process to be conducted on a principle patented by Messrs. Richardson and Johnston.

An improved form of combined sleeper and chair, intended for colliery use, is being introduced by Messrs. George Hopper and Sons, of the Britannia Iron Works, near Fence Houses; it is said to be the invention of a Belgian manufacturer, from whom Messrs. Hopper have secured exclusive rights for this country. According to the invention referred to, it is proposed to have, instead of a wooden sleeper with cast-iron chair, a sleeper and chairs in one piece of wrought-iron, made in a trough-shaped section. It has been found, from an experience of some years in the French, Belgian, and German collieries, that this wrought-iron sleeper, from its superior endurance, is much cheaper than the wooden sleeper in the long run. The mathematical accuracy and rigidity of the wrought-iron may prevent the very great wear and tear and destruction of property which often result from chairs being loose or broken, or from the easy fracture of the ordinary wooden sleeper. In the continental coal fields thousands of tons of these iron sleepers are now in use, and it is not too much to anticipate that our large coal trade will entail a tenfold demand for them in England, Scotland, and Ireland. Nothing can be more deserving of attention in an iron-producing country than any invention which has for its object the economical substitution of iron for wood.

A strike has taken place at Mr. Chayton's Casterbourne Colliery, near Bishop Auckland, and nine of the men were brought before the magistrates there, on Monday, charged with absconding themselves without having given due notice. The men were ably defended by Mr. Patrick. It appears that the men had held a meeting, and agreed to ask the viewer for an advance in price, which he refused to give, and the men then left work without notice. The defence of the men was that the viewer told them "if dissatisfied that they were at liberty to leave," and after due consideration the magistrates decided to dismiss the case on this ground, that the men were under the impression that they were at liberty to leave.

The subject of technical education continues to attract much attention, and the movement for imparting it advances most rapidly. Schools have been established at most of the great colliery centres already. Meetings have been held at Murton, at Seaham Colliery, under the presidency of Mr. Matthews at Murton, and Mr. Daglish at Seaham, where schools have been established, in addition to those already reported at Blyth, Hetton, &c.; others will shortly follow, until the whole district is supplied.

#### REPORT FROM SCOTLAND.

**JAN. 27.**—There has not been much change in the price of Pig-Iron since my last, and the business done has been of an irregular and shift character; in fact, speculation has been pushed so much that legitimate business has been in a measure suspended, and the "bulls" have taken the hint. A fair trade could easily be done in Scotch pigs at a moderate advance, which merchants are willing to pay, but business beyond that is eschewed in the meantime. Prices have declined about 7*d.* a ton from their best, and yesterday closed at 55*s.* 0*d.* buyers cash, and 55*s.* 3*d.* a month. To-day, market no better, and only about 1000 tons reported, at 54*s.* 10*d.* cash, and 55*s.* 1*d.* a month, closing sellers 1*d.* more. No. 1, g.m.b., 55*s.* 9*d.*; No. 3, 53*s.*; Gartsherrie, No. 1, 62*s.* 6*d.*; Coltness, 62*s.*; Calder, 59*s.*; Glen-garnock, 57*s.* The total shipments of the week from the Scotch ports were 8420 tons, against 5735 tons in the corresponding week of last year, which makes an increase on the shipments of the year till date of fully 6500 tons. Large contracts for delivery of Middlesbrough pigs are accruing here, but there is a deficiency in the quantity delivered on the year to date of 3050 tons, but this deficiency is being made up. Malleable Iron is again quieter, the spurt at the opening of the year having subsided by the shyness of makers, and the slight increase demand for second-class brands. The works are, however, well employed, both in this neighbourhood and at Coatbridge, but there is a scarcity, or rather, perhaps, a withdrawal, of merchants' orders for the present. Bars and angle iron as last quoted, but plates have been advanced 5*s.* a ton by some makers, whilst the Parkhead Company are demanding 10*s.* on ship-plates. The Caledonian Company are advertising tenders for supplying them with 10,000 tons malleable rails, 300 tons Bessemer steel rails, 4500 tons cast chairs, &c. Pipe founders have good prospects before them, and this week the Leeds Corporation are inviting tenders for 17,600 tons socket pipes, a portion of which will likely be taken here. The fact (repeated in the *Times* of last week) that Neilson and Co., of this city, had taken a contract for 22 locomotives for a foreign Government, was made known to the readers of the *Mining Journal* two months ago, and need not now be reproduced. The tin-plate makers at Coatbridge are full of orders, and the tube works are moderately busy.

The trade in Coals, judged of by the aggregate shipments from the whole Scotch ports for the week, would indicate an increased business over the corresponding week of last year, were it not that nearly two-thirds of the quantity has been sent coastwise—the totals being 24,760 tons, against 17,255 tons. We yesterday met a coalmaster who was losing at the rate of 30*l.* a week by working his pits at present rates, the output being so unremunerative, and he knew of others similarly situated; and yet the miners in the employ of these masters go to the "stump" and denounce them as "slave-drivers" and "extortioners!" The colliers in the Glasgow and Govan districts have been reduced 6*d.* a day; and notice of reduction has been posted at some of the works in the Coatbridge district. The men are meeting, by delegates and in conferences, in the hope that they may avert the reduction. But unless more remunerative prices are got for coal a



reduction in wages, or a cessation of work altogether, is inevitable. To be working without profit is bad enough, but to continue working from month to month at a loss is what cannot be expected to continue long.

An important letter—"How Lives may be Saved after Explosions"—has been written by Mr. James McMurtrie, writer, of Ayr, in which he proposes that fresh air shall be forced down the shaft through an iron pipe, and conveyed by smaller pipes along the floors of the principal passages into breathing rooms, made large enough to contain eight or ten men. In the breathing room there would be breathing jets, or separate pipes, provided for each man. Mr. McMurtrie prefers the recesses to carrying the pipes directly into the working places, lest the men should fall asleep and drop the pipes out of their mouths. The recesses are to have seats, like church pews, only with a ceiling, and a little narrower, and the men might go into them to take their breakfast. To guard against damage to the pipes, he would sink them a foot below the floor of the levels.

It gives us pleasure to notice that the Scottish Wagon Company (Limited), whose annual report is to be laid before the shareholders in Edinburgh, on Friday, is enabled to pay the very handsome dividend of 12½ per cent., and carry forward upwards of 500l. to the reserve fund, which will then exceed 5000l. The report states that during the half-year ending Dec. 31, 1867 wagons had been added to stock, at a cost of 28,155l. 4s. 8d.; and 45 wagons had been sold out of stock to lessees in terms of agreements. The total number of wagons now running amount to 7412, of which 7299 were let out on purchase leases, and 114 on hiring leases. The net balance of revenue account, after deducting from wagon rents the amounts applicable to capital and reserve fund for the half-year, and charging all expenditure in full, was 9533l. 17s. 5d.

The activity in the Clyde ship-yards is not so apparent as one would have expected, considering the work on hand. This is accounted for by the fact that the weather has been very unfavourable for out-door labour, as in most cases the yards are unprovided with shelter of any kind. When they come into full play angle-iron will be required in greatly larger quantities, and with regularity in the delivery, and this is giving hope that manufactured iron will be in demand as soon as the weather settles. The closing of the dock-yards at Woolwich and Deptford is also calculated to add to the property of the Clyde, whose fame for economy and skill in shipbuilding is known all over the world. We have this week had the launch of a handsome iron sailing barque of about 400 tons, British measurement, named the Maria de C. She is intended to trade between this country and the Spanish colonies, for which she is specially adapted, and is to be followed by others of the same size. This vessel is classed A 1 at Lloyd's, and 3-and-3ds I. French Veritas. The Maria de C is being fitted out under the superintendence of Capt. José Manuel de Aguirre, well known in the trade between the Clyde and the Island of Cuba.

There appears to be no doubt that gold does exist in Sutherlandshire, but hitherto it has been found in such small quantities as scarcely to be worth working. An old Australian, more successful than the rest, has made 10s. a day, and has had to walk 20 miles a day. The climate is atrocious. The Duke of Sutherland, the lord of the county, will not say what he means to do, whether the diggers will be allowed to work in peace or quietness, or whether he will turn round upon them with a *sic vos non vobis*. These three considerations—the poverty of the yield, the inclemency of the weather, and the uncertainty of the tenure—are sufficient to prevent any rush to these Scotch diggings.

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

JAN. 28.—As yet the improved demand for Iron cannot be said to have come nearer than expectation. The meetings of the Trade are quiet, orders as a rule are scanty, and sanguine reports of the state of the trade would only be like sailors in a calm whistling for a breeze. There is a steady quiet trade doing, however, though few of the works are able to keep in full operation. The Hardware Trades are moderately good in most branches, but not as a rule brisk.

An invention, which gives promise of being of great value in a sanitary point of view, has been provisionally patented by, and is in actual operation at, the Galvanising Works of the Wolverhampton Corrugated Iron Company. The operation of coating iron with zinc and tin, to protect it from rust, and to which the scientifically-sounding name of "Galvanising" is applied, has of late years been very rapidly extended in Wolverhampton, Birmingham, and parts of South Staffordshire, and has become a very important manufacture, which is rapidly spreading over the country. It increases in many ways the practicable application of iron for purposes of construction. The house of the colonist and the shovel of the maltster are now largely constructed of galvanised iron; and the rolling of suitable sheets forms no unimportant element in the work of the iron mills of the district. But these galvanising works have been and are the subject of considerable complaint by people living near them. A dense, white, pungent vapour, which, whether noxious or not, is certainly unpleasant, rises from the baths where the metal for coating is melted, and into which the iron is dipped; and in damp weather this falls and crawls along the ground, irritating nasal and bronchial membranes, and not conducting to quicken the appetites of squeamish stomachs. The Wolverhampton Corrugated Iron Company have spent very large sums in endeavouring to prevent the escape of this gaseous exhalation into the air, but without success, until they adopted the plan now in use. Round the edge of the bath which contains the melted metal, and into which the iron to be coated is dipped, runs an open flue, forming a projecting lip. Pipes connect this with a powerful fan, which extracts the air from them, thereby causing a strong current of air to descend upon the melted surface, sweeping away vapours rising from it into the flue and down the pipes to the fan, whence it is driven along a flue to the furnace, where the articles galvanised are annealed, and in which the vapour is consumed. The difference produced in the shops by its use was most striking. The men who work over the bath are in a fresh, cool current, instead of in one of hot air, impregnated with the vapour which results from the changes caused by mixing acids and alkalis with too heated metals. It was the workmen's joke, when the process was first introduced, that they had got a parlour to work in, which they might as well have papered and carpeted. The process is applicable to all vessels containing fluids which give off offensive exhalations. Mr. Baker, Inspector of Factories, has seen and expressed his decided approval of the invention. The patentees are trying experiments with a view to condense and utilise these vapours, which no doubt consist of the excess of substances necessary in the manufacture.

On Tuesday afternoon a steam-engine boiler burst at Mr. J. A. Kendrick's Whitehall Colliery, Greet's Green, near West Bromwich, and the fireman, a man 63 years of age, lost his life. He was buried in the ruins of the boiler-house, and died an hour after he was released. Mr. Kendrick and others were injured slightly. The boiler was torn into three pieces, which were carried to a considerable distance: 28 men in the pit had to be got up by an extemporised winding apparatus, horses being used as the moving power.

The case of a man named Peter Scully falling into and being drowned in the sump of Mr. Jones's Birchills Colliery, near Walsall, was finally investigated by the coroner's jury on Tuesday. It turned out that the pit had only been at work six weeks, so that the Special Rules had not yet been formally sanctioned. The owner and his son stated that the orders to cover the sump whilst the men ascended or descended, or were in the pit, were very strict. The jury, however, returned the usual verdict—the absence of special rules, having legal authority, being probably a bar to conviction, should it be otherwise justifiable.

In the case of the explosion at the Bentilee Colliery, Fenton, last week, Mr. Wynne, the Government Inspector, gave it as his decided opinion that the accident arose from the fireman having neglected to cover an old drift-road, down which the air passed, instead of through the workings, and, as it was clearly the duty of the fireman to do this, he was committed for "manslaughter."

#### REPORT FROM DERBYSHIRE AND YORKSHIRE.

JAN. 28.—Trade throughout Derbyshire remains without alteration, there being only a limited demand for manufactured iron, although one or two of the leading firms are moderately active. The business doing in coal is rather quiet, the mild weather having the effect of lessening sales to a considerable extent, more particularly with regard to household qualities. The tonnage going to London is not quite an average one, although for various reasons the northern part of the county supplies the largest quantity sent by railway of any district in the kingdom, it having advantages with regard to rates not enjoyed by Yorkshire or the North of England. Business with Birmingham and the Western Counties is tolerably good, although by no means such as is usual at this period of the year. The iron works in South Yorkshire are now favourably off for orders, and with one or two exceptions those in hand are likely to keep the men fully going for some time. At Milton and Elsecar the mills are in full operation, there being a good demand for rails, bars, sheets, and plates, some of which are for home consumption, and others for India. The hammer-men at the Penistone Steel Works are now more fully employed than for some time past, whilst the rail mill is again at

work. There is no improvement in the demand for coal, which is very quiet, more particularly for London and the South, the cause of which has been so repeatedly given that one is tired of alluding to the Great Northern Railway Company, and their all but prohibitive rate. Still it cannot be denied but what the policy of the company has seriously affected its own revenue, and inflicted incalculable injury on the colliery proprietors, who have been dependent on the line for the conveyance of their produce to the metropolis. A moderate tonnage is being forwarded to Grimsby of steam coal, but there is very little doing with Hull. The trade to Lancashire is still very dull, without any prospect of its improving, unless the Manchester, Sheffield, and Lincolnshire Railway Company accede to the application made last week for a reduction of their present mineral rate.

There is now every appearance that the freedom from disputes of a serious character between employers and employed, which has been the rule for a considerable time past throughout the South Yorkshire district, is likely to be interrupted, and that we shall again have a fierce struggle between capital on one side and labour on the other. The first war-note has already been sounded, the battle ground occupied, and the antagonistic forces ready apparently for the fray. The men employed at Mr. Huntman's collieries, near Sheffield, considering that they have not been receiving the same rate of wages as paid by other coalowners in the district, and being dissatisfied with the terms on which they have been working—that they can be discharged at a minute's notice, or leave on giving the same—have refused to continue work unless there is an alteration with regard to both points. Mr. Huntman appears not at all likely to give way, and the executive of the Union say that they have 10,000l. in hand, which they can spend, if necessary, in the contest, besides which a weekly levy of 1s. per member will bring in 5000l. a week, which will be considerably more than will be required to keep the men who turn out. At Denaby Main, also, which is the deepest pit in Yorkshire, there appears every likelihood of a struggle. It appears that on the colliery commencing work the men were engaged on condition that they should not belong to the Miners' Union. Recently, however, being dissatisfied with, as they state, giving 9s. to the corve, instead of 8s. 6d., which is the standard in the district, a large number of the men joined the Union. Accordingly, on Saturday last, the following notice was posted up in the works:—"Notice is hereby given that all men employed in this colliery having been engaged on condition of not belonging to the Union, therefore if any man should now, or hereafter, join it, he will at once receive due notice to leave his employment." Nearly 200 of the hands, it is said, joined the Union, and on Saturday last those who occupied houses belonging to the company received a week's notice, and a month's notice to leave their employment. So the matter rests for the present; but the probabilities are decidedly in favour of the view that a struggle will be the result.

A painful excitement has been prevalent throughout the Chesterfield district during the last 10 or 12 days, owing to the number of fatal accidents which have taken place at some of the iron works and mines, the most serious being the boiler explosion at the Timber Field Colliery, Clay Cross, which resulted in the death of four persons, one of them being the son of the proprietor. An explosion of gas at the Devonshire Silkestone Colliery caused the death of two persons, one of whom lingered until Monday last. James Blarney and Ephraim Brooksbank, whilst waiting the Magpie Mine, near Bakewell, were killed by a quantity of the side of the shaft falling on them. Both the men were married. At Staveley a man 66 years of age, engaged at the iron works, was killed by being struck by some of the machinery, and at some other collieries there were accidents in which three or four persons were very seriously injured. The catalogue of fatalities is the largest we have had to record for a very long time indeed, the district, as a rule, being generally pretty free from fatal accidents, considering the number of persons employed at collieries and iron works.

#### REPORT FROM MONMOUTH AND SOUTH WALES.

JAN. 28.—The Iron Trade of the district continues to steadily improve, and should nothing arise to check the good feeling which now unquestionably exists, there is every probability of the trade soon attaining a position similar to that it occupied previous to the disasters of 1866 and 1867. The rail mills at the leading establishments are kept fairly going, and the number of large contracts in the market raise expectations of a considerable amount of business being done at the various establishments, and affording full employment to the hands engaged throughout the year. These opinions are considerably strengthened from the fact that the Belgian and French works are likely to be busily employed for some time to come in the manufacture of rails for Russian, Hungarian, and continental railways, and which will prevent any very keen competition with makers in this district for the large contracts now in the market. The men engaged at the rail mills are chiefly executing orders for the United States, British America, and South American markets, to which considerable supplies have to be sent. At the local ports large quantities of rails are now lying, waiting the arrival of vessels to convey them to their places of destination, and at the Newport Docks there are not less than 60,000 tons waiting to be shipped, being a much larger quantity than was ever before known, and there is no room left for stowing more until a few clearances have been effected. None of the large quantity named is makers' stock, the whole being orders for the United States, British America, and South American railways. Rails are also being manufactured for Peru, to which country heavy supplies have to be sent during the spring and summer months. There is little or no variation to note in the home trade, but the gradual restoration of public confidence in railway securities gives hopes of the leading companies becoming large purchasers at no distant date. Bars sell freely, chiefly for exportation to the continental markets. Stocks of pig-iron are now considerably reduced, and makers experience no difficulty in obtaining full list quotations for best brands.

The Tin-Plate Trade is in a healthy state, the mills in the district being fairly employed, and makers anticipate some good orders being given out by American buyers forthwith. Last week a doubt was expressed as to the advance of 3s. per box agreed on at the Quarterly Meeting being maintained, but prices have since become firmer, and there is now a prospect of list quotations being obtained before many weeks have elapsed.

The Steam Coal Trade, from the fine weather during the past fortnight, is gradually recovering from the late depression, owing to the number of vessels arriving at the local ports, and the consequent increase in shipments. The majority of the vessels that have arrived are principally to take in coals for the Mediterranean, Turkish, and French ports, from which places there are numerous orders on merchants' and shippers' books at the present time unexecuted. There is an average demand from the mail packet stations and continental markets, and should the present fine weather continue a short time hence will witness the steam coal trade in a position something like its former activity. From some parts of South America there is a falling off in the demand, owing to the termination of the war in Paraguay, and shipping freights to that country have given way. For house qualities there is a slight improvement in the enquiry, but a considerable increase must take place before the resources of the district are fully called into requisition.

An important case—"Lewis v. Fothergill"—has been heard before Vice-Chancellor James, in connection with a dispute referring to the winning and proper working of some minerals under the Troedryhiw estate, near the Plymouth Iron Works, Merthyr Tydvil; and resulted in the Vice-Chancellor dismissing the bill, with costs, without calling on the defendants' counsel. An injunction was sought to restrain the defendants from working the coals from the rise of the Troedryhiw estate—the coals were worked from the Tirlaldwin estate. The plaintiff contended that this being a lease of minerals under a farm of very great extent, there is to be implied in this a covenant that the property shall be won by means of an independent system of drainage provided on the estate itself, by sinking pits down to the coal, and working the coal from those pits upon that estate. The Vice-Chancellor found that from the evidence it was impossible for him to say that the defendants have improperly done anything to take the property, either by *malis fides* or without proper skill and proper care in so working; it did not seem to him that there can be any substantial difference whether it is worked by in-stroke or working from the deep. It was proved to his Honor's satisfaction that before the agreement was entered into the plaintiff's agent, with his authority, did settle with the defendants what particular mode they were to adopt in winning this coal, and that it was settled between them that this particular mode of reaching and winning this coal was by driving proper headings down to the deep. The agent had sworn positively, and it is not denied, that he had authority to enter into that agreement. He remained agent for two years after that. The defendants swear that they acted in pursuance of that agreement, that they always relied upon it, that it was known to the agent that they were doing this, and they say they took those steps in pursuance of that agreement to win the coal in that way. It appeared to the Vice-Chancellor that that makes it almost inexcusable that the plaintiff, when it was brought to his knowledge that his agent had sanctioned this, should have continued this Bill in support of a claim which, of course, might have been properly made in the first instance, but which ought not, in his opinion, to have been pressed when the facts mentioned came to his knowledge, and which he is utterly unable to deny.

At the Cardiff Police Court, on Wednesday, the case of the parish of St. Mary, Cardiff, v. Powell's Duffryn Coal Company was again brought forward. The company was summoned by the overseers of St. Mary's parish to recover rates for the last four quarters, amounting altogether to 495l. 17s. The present case is a similar one to that of the Rhymney Railway Company's, which arose out of the judgment in the Mersey Dock case, which, as the Lord Chief Justice recently observed, decided that all the cases upon the subject down to the time of Lord Mansfield, and from the time of Lord Mansfield to the present day, were wrong. The effect of that decision was that the occupier of property which is valuable is rateable to its value, whether or not he receives the

value to his own use, and whether or not it is beneficial, whereas it had been previously supposed it was only a beneficial occupier who was rateable. The stipendiary magistrate made an order for the payment of the amount, it being understood that, in the event of the decision in the railway case being favourable to the defendants, they would apply to the Court of Error.

It is rumoured that some important changes are to be made in the management of the Cardiff Docks, and it is also stated that Mr. Boyle has resigned the trusteeship, and that the docks will be shortly leased, the Marquis of Bute being desirous of ridding himself of the heavy responsibilities incurred in the management of a concern of such magnitude.

The arrivals at Swansea include—the Edith May, from Tilt Cove, with 305 tons of copper ore, for H. Bath and Son; the Victor, from St. Nazaire, with 250 tons of iron ore, for T. Walters; the Saladin, from Antwerp, with 157 tons of fire-clay, for the Swansea Zinc Co.; the Star of the West, from Coquimbo, with 545 tons of copper regulus, for H. Bath and Son; the Argo, from Seville, with 28 tons of copper ore, for H. Bath and Son; the Alfine, from Cuba, with 573 tons of copper ore, and 108 tons of copper regulus, for Coble Company.

#### FOREIGN MINING AND METALLURGY.

The movement of affairs has been rather more active of late in the Belgian coal trade; the tiff temperature which has prevailed has, however, had the effect of checking several important transactions which were upon the point of being concluded. Prices remain without variation in all the basins. An adjudication which has taken place for coal required for the Belgian State Railways has occupied the Belgian industrialists to a considerable extent; higher rates had been expected, but this anticipation has been disappointed. The prices agreed on are the same as those which distinguished an adjudication of July 29, 1868; yet no one would be disposed to contend that the state of affairs has not sensibly improved since that date, and some astonishment has consequently been expressed at the meagre terms secured by the competitors, who appear to have been too much preoccupied by mutual rivalries. The new contract will come into force July 1, 1869, and will expire June 30, 1870.

The condition of the Belgian iron trade is considered to be improving, numerous and considerable orders for merchants' iron having arrived at the works, while, as we have already reported, several important contracts for rails have been secured. Pig, which had been for some time neglected, now finds a tolerably regular outlet. Belgian refining pig has now obtained a steady market in Austria, a result which has been greatly promoted by a special tariff, concerted between the Belgian Government and various German railway companies. Thus, for a load of 10 tons, the following rates are now paid from Châtelineau:—To Norschau, 14l. 3s. 5d.; to Pilsen, 14l. 8s. 5d.; to Radnitz, 14l. 15s. 3d.; to Horowitz, 16l. 3s. 2d.; to Braun, 15l. 10s. 2d.; to Prague, 16l. 8s. 8d.; and Vienna, 18l. 8s. Smaller deliveries will not have the benefit of this reduced tariff. A recent attempted adjudication of rails for the Belgian State Railways does not appear to have proved successful, no tenders having been accepted; a new adjudication is announced for Feb. 3. This second adjudication is not expected to be attended with more satisfactory results, unless modifications are announced in the scale of charges. The price to be paid for the 6000 tons of rails agreed to be supplied by MM. de Dordot to MM. Vitall, Picard, and Co., for the Victor Emmanuel Railway, is 6l. 10s. 5d. per ton, delivered at Antwerp, without guarantee, and without accessories. The Courcelles-Nord Collieries Company is paying a dividend of 11 per share for 1868.

A little feebleness has been observed on the French copper markets, and at the last dates the market had not fully regained a firm tone. The sale is mentioned of 100 tons of copper, to be delivered at the end of January, at 76l. per ton, Paris conditions; and of 25 tons, to be delivered February 15, at the same price, but subsequently prices could not be carried beyond 75l. per ton. At Paris the market has been weak, but at the last dates it had somewhat rallied, although the amount of business transacted was still comparatively limited. At Marseilles there has been no great change in quotations; Toka has made 72l., Spanish 74l., Chilean and refined Peruvian 78l., rolled red copper 84l., and sheet copper 80l. per ton. The German markets have remained without any material variation. At Hamburg there have not been many transactions in copper of late. At Rotterdam, with a moderate current of affairs, Russian has been quoted at 51s. 11d., and Dron them 50s. 11d. to 52s. The aspect of the Dutch tin markets has somewhat improved. Tin has continued an upward movement, and some important transactions have been concluded in Banca, as well at Rotterdam as at Amsterdam, at 66½s. to 67s.; at this last price there was a slight check, the article receding offered at 67½s., but the officially announced rise of 4l. in English tin has since revived business, and prices have been carried to 68s. For Billiton 66s. to 67s. has been paid for direct deliveries. A regular current of affairs, a sustained demand, and little or no variations in prices—such are the characteristics of the principal lead markets. At Havre a sale has been noted of 40 tons of English lead at 19l. 6s. per ton, Paris conditions. A slight improvement has been noticed in the tone of some of the zinc markets.

The arrangements between the Eastern of France and the Great Luxembourg Railways are considered very satisfactory. The *Ancora* observes:—"In purchasing or taking a long lease of the Grand Luxembourg the Eastern of France has removed all inconveniences; it will now run by the Grand Luxembourg directly into a colliery district, and mistress of the working of the Grand Luxembourg it assures us certain and sustaining supplies. If, as we hope and expect will be the case, the Eastern of France Railway Company also reduces its tariff for coal and coke, we shall all be able to say that it has deserved well of the metallurgical interest of our group."

The attention of the Haute-Marne metallurgical group has been a good deal directed of late to the subject of concessions of railways which are now being solicited by Belgian capitalists, in order to unite that group, which is rich in minerals, with the Belgian coal basins. An extraordinary meeting of foremasters of the Champagne, which was held a few days since, was almost entirely occupied with an examination of these applications for concessions. The group of capitalists represented by the Belgian General Company for Promoting the National Industry asks to be permitted to carry out, at its own cost, and without any increase of the subvention voted already by the Corps Législatif—first, an extension from Sedan to the north-west, uniting itself to the Belgian network, in order to bring direct into the Haute-Marne the coal and coke of Charleroi and Liège; secondly, an extension running from the south-west of Lérrouville to the line from Blesme to Gray to the centre of the metallurgical basin, and which, it is contended, would give satisfaction to the numerous works of the Saulx, and to important mines and quarries between the valleys of the Marne and the Orne. The group represented by the Coal Basins of the Haute-Marne Railway Company solicits a concession of a line from Orleans to Châlons, and obliges itself, besides, to construct without any increase of subvention—first, an extension of that line from Châlons to the Belgian frontier, via Bethel and Signy-le-Petit; secondly, a line commencing at Troyes, passing via Piney, Brienne, and Sommeville, and accommodating by branches, if not by the main line, the works of the Haute-Blaise (this line would also, if carried out, terminate at a point on the Blesme and Gray line); and, thirdly, a line from Donjeux to Rimaucourt, ascending the valley of the Rognon, in which there are numerous metallurgical works. A rise of 4s. per ton in iron has taken place in the Meurthe and the Moselle; this advance carries the price of first-class merchants' iron to 71s. 8s. per ton at Metz.

The Royal Portuguese Railway Company has just reported progress for 1867-8. The company's enterprise seems thus far to have resulted in failure. We may notice one or two points in connection with the concern. The first is that the fish-jointing of the section from Lisbon to Santarém is being pursued, and is now completed, with the exception of about 5½ miles. The company possesses 54 locomotives—seven passenger engines, 22 mixed engines, and 25 goods engines.

Salt has been found at a depth of 472 feet, near Segeberg, in Holstein. The discovery is the more valuable, as the proximity of the North Sea on the one side, and the Baltic on the other, will afford a cheap and easy means of carriage.

IMPROVEMENTS IN FURNACES.—An important improvement in step-gates for furnaces has recently been patented by Mr. J. Head, of Middlesbrough. Each bar is supported upon two or more supports, or levers, which can be projected downwards at right angles to the bar. These levers or supports, if of wrought-iron, should be swaged down somewhat smaller at the upper end, and inserted into holes, cast or otherwise, made in the bar, which should be of cast-iron. They can be further secured by wedging or riveting, if desired, or they may be cast upon the bar, as hereafter described. A few inches below the bar a hole is made in the shank, through which a bolt or pin is inserted, attaching it to the frame, and which carries the weight of the bar, leaving it free to turn upon the pin or bolt in an arc of a circle. A few inches below this hole in the shank another hole is provided, containing another bolt, which attaches the extremity of a shank to a long flat bar, connecting the extremities of all the shanks. The bars are cast with shanks and projecting pins, or centres. The upper pins rest in notches in the frame for easy removal, and the connecting bars hook on to the lower pins. The bars are supported upon a carriage, or bogie, formed of a piece of iron, and supported upon two wheels, which run upon light rails near the floor of the ash-pit. The wheels are placed so that when the grate is at its proper inclination they are nearly in the line of its centre of gravity.

ANGLO-COLONIAL.—The February number of this magazine (published by Messrs. Sampson, Low, and Co., Fleet-street) is fully equal in style and variety of contents to the first. There is matter to interest all classes directly or indirectly interested in the colonies. "Concerning Western Australia" is well worthy of perusal. In it it is remarked that the mining resources of the colony suffer from the scantiness of labour and capital. Thus, several copper and lead mines have been opened, and found to yield a rich supply of ore, but these mostly lie unused for lack of hands; and, though coal is believed to exist, and has, indeed, been discovered in parts, as on the Irwin River, no attempt has yet been made to bring it to the surface.

STREET TRAMWAYS FOR LONDON.—The Metropolitan Street Tramway Bill came before Mr. Paigrove, one of the examiners of standing orders, on Tuesday, who, after the necessary proof had been given, decided that the standing orders had been complied with. The Finsbury, Peckham, and Greenwich Street Tramway Bill has also passed standing orders, and was, on Monday last, considered at a special meeting of the Greenwich District Board of Works, after hearing explanations from the engineer of the company, and examining the models of the rail proposed to be laid, approved of the bill, and instructed their clerk and engineer to agree to clauses with the company, and petition in favour of the bill.

Vice-Chancellor Malins has appointed Mr. W. J. White, of King-street, interim official liquidator (in conjunction with Mr. C. Greenwood) of the Hercules Fire, Life, and Marine Insurance Company (Limited).

Vice-Chancellor James has appointed Mr. James Hole, of Gresham street, to be official liquidator of the Jamaica Commercial Agency Company.



## THE RESOURCES OF COLORADO—No. IX.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—The immense beds of coal existing throughout the territory of Colorado are well worthy of attention in examining the capabilities and resources of this new land. Situated, as they are, so far from any other workable coal fields, and surrounded by a vast extent of country comparatively destitute of fuel, it shows the bountiful provision of the hand of Providence in placing these things where most needed, to assist in the development of the country. The lignite formation extends across the first range of the Rocky Mountains, on the Laramie plains, extending westward nearly to Great Salt Lake, occupying an area, estimated by Dr. Hayden, the United States geologist, of 5000 square miles, in beds of from 5 to 11 ft. thick. The Union Pacific Railroad passes directly through them, and they are now brought into market.

Passing over the Laramie range of mountains, the first coal mines opened in Colorado are at South Boulder Creek, and are, probably, the most valuable in the West. They are known as the Marshall Mines. By means of the dip of the strata is found exposed a wonderful section of beds of lignite, from 5 to 15 ft. in thickness, 11 in. making at least 50 ft. of solid lignite. An analysis of this lignite is shown to be 59-30 at a glance gives the superiority of the western lignite over those found elsewhere. It is selling at \$4 currency per ton at the mine. In some portions of the mine there is a considerable quantity of amber, which, burnt in a furnace, seems superior to the ordinary western bituminous, and so ranks next to anthracite for domestic uses. Being non-bituminous it requires a draft to burn well. It is as neat as anthracite, leaving no stain on the fingers; it produces no gas or odour, and is thus superior in a sanitary view; it contains no destructive element, leaves very little ash, has no more erosive effect on stoves or steam-boilers than wood, and must become eminently useful for generating steam and smelting ores. Very soon the two great railroads—the Union Pacific and the Union Pacific Eastern Division—will pass right through these great coal fields, and then they will prove as important to the almost treeless West as the coal fields of Pennsylvania are to the East. When we reflect that we have some 20,000 square miles of mineral fuel in the centre of a region where for a radius of 600 miles in every direction there is little or no fuel either on or beneath the surface, the value of these deposits cannot be overestimated. There is no locality west of the Mississippi so rich in coal and iron as Colorado, and much of her future prosperity depends upon the development of these great deposits. Population will follow coal, and here, at the base of the Rocky Mountains, containing the largest body of accessible mineral wealth in the world, with rich farming and grazing lands near at hand to feed a large population, and unlimited water-power for manufacturing purposes, will grow up one of the most prosperous States of the West, and into which, from the conterminous territory of Montana, New Mexico, &c., people are pouring as fast as the means of communication and stage travel can carry them, that justly Colorado may be, as called, the gem State of the Rocky Mountains.

Another most important industry is as yet in its infancy—the production of salt. At the present time at the salt works but 10 tons are daily made, but simply by enlarging and increasing the works the supply can be increased to any demand, and as much will be required in the reduction of silver ores it will be met. And yet when this most useful and necessary enterprise was commenced, professional doubters and croakers (found in every community) pronounced it a humbug, predicted its failure, and declared its projectors mildly crazy. Colorado is also rich in the precious stones and other valuable minerals. There are found the agate, alabaster, alum, amethyst, antimony, arsenic, asbestos, beryl, emerald, aqua marina, blismuth, bloodstone, calngorm, cornelian, chalcodony, opal, garnet, manganese, onyx, opal, porphyry, sardonyx, talc, zine, and jade.

Now, let me ask, Who are the right people to go out West, and colonise this virgin territory? I would answer—The producing class—the farmer, the stock raiser, the wool grower, the dairyman, the miner, and labourer. There is the natural wealth, and these are the class to utilise it. Those going south find out that the climate, resources, and advantages more than repay the privations attendant on a first settlement in a new country. Those who wish to grow up with it, have a location pleasant to live in, good society, and comforts of an eastern life, can find it now in the towns of Colorado. Doctors are not in demand; the climate is too healthy, from its elevation and distance from large bodies of water. Many who have left the East despairing and hopeless have recovered, and now rejoice in renewed health, restored energies and prospects. School teachers are highly paid, and good ones are always in demand, as the rising generation are increasing very rapidly. Servant girls were getting in the spring of 1868 from \$10 to \$12 a week. These prices should, and will be, reduced somewhat, but just now, whether it is owing to the "dryness of the atmosphere," the "lightness of the air," and other causes, they are hard to keep, and get into the habit of housekeeping, so vacancies are frequent, and hard to fill. One thousand could now obtain either good situations or husbands. Mining labour is always in great demand at better prices than in any other mining country so easily reached. People who expect to get rich in a month will probably be disappointed. If getting rich were so easy, there are plenty of men sharp enough out there to take advantage of it. Whoever goes to Colorado, thinking this can be done without labour—hard labour—had better get the idea out of his head, or stay at home. Fast young men, who are only useful in carrying a gold-headed cane, will not find it a paying business. Neither do rogues or the light-fingered thrive. They soon become afflicted with a throat disease, caused by too close contact with a rope, provided by a vigilant arrangement. For honest labour there is constant demand, and for those who have no capital but muscle there is no better place. Thousands in our Eastern States, and millions in Europe, would be glad to have a home in the Far West, if they only knew they would have no bad luck. Of course, all cannot succeed in everything; some failures will occur, but those who are struggling for a living, with families to feed, should seek the West somewhere, anywhere out of the crowded cities. There is plenty, and room for all. The poorest may become a peer if the stuff is in him; and as a boy once wrote to his father in the East—"Some very small men are elected to office here; you had better come on." But to those who are doing well at home, I say stay there; but if out of business, desperate, and bound to go somewhere or commit suicide; do not do the latter, but steer west. Give your spirit vent; a live man West is worth a dozen dead ones East.

The prices of labour in the spring of 1868 were—Sinking engine-shaft, per fathom, from 36s. to 45s.; drifting, per fathom, 12s. to 18s.; sinking winzes, per fathom, 22s. to 27s.; miners' wages, 12s. per day; pumpmen, 1l. per day; pitmen, 15s.; lumbermen, 12s.; bucket fillers and labourers, 9s.; cutworkmen, 12s.; enginemen, 12s.; carpenters, 15s.; one dresser, 18s.; mechanics, from 8s. to 87s. per day; farm hands, \$30 per month, and found; hotel cooks from \$50 to \$75; waiters, \$30. Expense of living at hotels, board and lodging, \$10 per week; boarding houses, \$7 to \$8 per week; backing, \$4 to \$5. Dry goods and clothing are very little above the price of the eastern. Ponies and saddle horses, from \$40 to \$100; cows, from \$30. Rents are very reasonable—a good sized dwelling house costs from \$15 to \$30 per month, according to convenience and location. Flour sells at 38s. per cwt.; potatoes, \$1 50c. per bushel; beef, 10 to 20c. per lb.; butter, 60c. all currency, the dollar being equal to 38s. English.

The Homestead Law, in the United States of America, is a law of 160 acres to every settler declaring his intention to cultivate it—invites the emigrant in its great inducements. While the enactment of the State Law of Colorado, which provides that every head of a family may have a homestead, which shall be free of sale or execution of all debts—its value to be placed at \$2000—secures him in it. No man, however poor, can be deprived of a home. No creditor, who has an unfortunate farmer, mechanic, or labouring man in his power, can deprive him of a house and home for his family. No man can be pushed to the wall. Honest men who have been unfortunate will have something left, and on that something have the chance of restoring their fortunes, and becoming again independent.

**SOCIETY OF ENGINEERS.**—On Monday, a paper will be read on "Explosive Compounds for Engineering Purposes," by Mr. Perry F. Nursey.

## ANTIMONY ORE.

**THE SUBSCRIBER** expects shortly at LONDON a PARCEL of the above, and also a FIRST CONSIGNMENT of YELLOW OXIDE of ANTIMONY. Samples on application.

JAMES THOMSON, 27, King-street, Kilmarnock.

## F. N. GIBBORNE'S PATENT MECHANICAL BALANCE-WEIGHT SIGNALS FOR MINES, &amp;c.

**THESE SIGNALS** supply a want long felt in giving INSTANT COMMUNICATION IN MINES at SEVERAL PLACES at the SAME TIME without the aid of electricity, but by a single rod or chain; so that a degree of safety is ensured hitherto unknown.

The price is also very low, and the mechanism so simple that any ordinary mechanic could put it in order if out of adjustment.

The same patent, as applied to ships, has received the approval of the Chief Engineer, Chatham Dockyard (vide Times, Aug. 13, 1868).

SOLE AGENT FOR MINERS:

Mr. GEORGE B. JERRAM, ENGINEER, WASHINGTON BUILDINGS, BRUNSWICK STREET, LIVERPOOL.

N.B.—Mr. JERRAM is now visiting the different mines with working models.

## SMITH AND FORREST,

ROBIN DISTILLERS, GREASE AND VARNISH MANUFACTURERS, HOLT TOWN OIL WORKS, MANCHESTER,

MANUFACTURERS OF VEGETABLE OILS, &amp;c.

ANTI-FRICTION GREASE, 10s. to 14s. per cwt.

Wire rope ditto, free from acid, 15s. per cwt. Liquid ditto (between thick and thin), for trams, &amp;c., 8s. to 12s. per cwt.

SKIP, HUTCH, CORVE, and WAGON OILS, from 8s. to 12s. per cwt.

TORCH OIL, 1s. to 1s. 6d. per gallon.

COPPER-SPOUTED QUART LAMPS, 4s.; TORCH WICK for ditto, 6d. per lb.

PATENT ANTI-CORROSIVE BLACK VARNISH,

"Paint Substitute for Wood or Iron," ready for use, 1s. to 2s. 6d. per gallon.

We shall be glad to furnish a detailed price-list on application.

Orders by post receive prompt attention.

## ENGINES AND BOILERS FOR SALE.

**MESSRS. NICHOLLS, MATHEWS, AND CO.** have FOR SALE ENGINES OF VARIOUS SIZES AND SEVERAL GOOD TEN TON BOILERS. All are in excellent condition, and well worthy the attention of purchasers. Also a WATER WHEEL, 35 ft. diameter, 3 ft. 2 in. breast, with iron axle, complete; and one 12 head STAMPS, axle, stands, frames, 12 heads of stamps, iron lifters, and two driving-wheels, complete.

Full particulars may be obtained by applying to Messrs. NICHOLLS, MATHEWS and Co., Tavistock Foundry, Tavistock.

## In the Court of the Vice-Warden of the Stannaries. Stannaries of Devon.

**PURSUANT** to an Order or Decree made in a Cause of Bayly v. Titherley the Younger, the creditors in respect of EAST BROOKWOOD MINE, in the parish of HOLNE, within the said Stannaries, are, on Thursday, the 4th day of February next, at Eleven o'clock in the forenoon, to COME IN and PROVE THEIR DEBTS before the Registrar of the said Court, at his office in Truro, or, in default thereof, they will be PEREMPTORILY EXCLUDED the BENEFIT of the said Decree.

F. HEARLE COCK, Truro

(Agent for Samuel Cater, Plaintiff's Solicitor, Plymouth).

Dated Registrar's Office, Truro, 23d January, 1869.

## In the Court of the Vice-Warden of the Stannaries. Stannaries of Devon.

BAYLY V. TITHERLEY THE YOUNGER.

IN RE EAST BROOKWOOD MINE.

**TO BE SOLD**, pursuant to an Order made in the above Cause, and dated the 9th day of December last, BY PUBLIC AUCTION, at EAST BROOKWOOD MINE, in the parish of HOLNE, within the said Stannaries, on Tuesday, the 9th day of February next, at Eleven o'clock in the forenoon, either together or in lots, the undermentioned

MINING MACHINERY, MATERIALS, AND EFFECTS—viz.:

40 feet WATER WHEEL, 4 ft. breast, with iron axle, ring, and cog wheel attached, two bobs connected with wheel; 15 feet WATER WHEEL, 3 ft. 6 in. breast, with iron axle and socket attached; balance bob; shaft bob; 16 12 in. pumps, 3 7 in. ditto, 2 12 in. door pieces and doors, 7 in. ditto, 13 in. windbore and door piece, 2 12 in. windbores, 9 in. working barrel, crab winch, capstan and about 40 fms. of rope, shears with pulleys about 50 ft. high, whim and chains, about 50 fms. of tramway, 2 lifts of pumps and rods in shaft, 100 fms. of 2 in. rods, pulleys and stands, 18 fms. of launders, and a variety of other materials and effects in general use in mines, full particulars whereof appear in hand bill.

Further information may be obtained on application to the person in charge at the mine, or to F. HEARLE COCK, Solicitor, Truro

(Agent for Samuel Cater, Plaintiff's Solicitor, Plymouth).

Dated Registrar's Office, Truro, 25th January, 1869.

## In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN RE PENDEEN CONSOLS MINE.

**TO BE SOLD**, pursuant to an Order made in a Cause of Cohen v. Brewerton and others, dated the 23d day of December, 1868, at the Registrar's Office, at Truro, on Wednesday, the 10th day of February next, at Twelve o'clock at noon, the

10 (3810th) PARTS or SHARES of the defendant, Elizabeth Brewerton; the 10 (3810th) PARTS or SHARES of the defendant, Daniel Broughton; the 10 (3810th) PARTS or SHARES of the defendant, William Birdsey; the 5 (3810th) PARTS or SHARES of the defendant, Celia Dunn; the 16 (3810th) PARTS or SHARES of the defendant, William Gillius; the 20 (3810th) PARTS or SHARES of the defendant, Albert Gough; the 20 (3810th) PARTS or SHARES of the defendant, George Hutt; the 5 (3810th) PARTS or SHARES of the defendant, George Augustus Brauston

40 (3810th) PARTS or SHARES of the defendant, William Hall; the 38 (3810th) PARTS or SHARES of the defendant, Henry Jacobs; the 100 (3810th) PARTS or SHARES of the defendant, John Lee; the 20 (3810th) PARTS or SHARES of the defendant, John Norris, Jun.; the 20 (3810th) PARTS or SHARES of the defendant, John A. Parker; the 5 (3810th) PARTS or SHARES of the defendant, Esther Solomons; the 2 (3810th) PARTS or SHARES of the defendant, Matthew Small; the 10 (3810th) PARTS or SHARES of the defendant, Clement Augustus Scott; the 17 (3810th) PARTS or SHARES of the defendant, James Smith; the 5 (3810th) PARTS or SHARES of the defendant, Matthew Robt. Wilkins; the 5 (3810th) PARTS or SHARES of the defendant, John White Welch; the 25 (3810th) PARTS or SHARES of the defendant, George Wadham; and the 5 (3810th) PARTS or SHARES of the defendant, Capt. John Teague; Of and in the said MINE.

HODGE, HOCKIN, AND MARRACK, Truro

(Plaintiff's Solicitors).

Dated Registrar's Office, Truro, January 27th, 1869.

## In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

**IN THE MATTER OF THE COMPANIES ACT, 1862, and of the WHEAL LOVELL MINING COMPANY.**—By the direction of His Honor the Vice-Warden, notice is hereby given that on the 5th day of February next, at Eleven o'clock in the forenoon, at the Registrar's Office, at Truro, in the county of Cornwall, this Court will PROCEED to MAKE a CALL of THREE POUNDS FIVE SHILLINGS PER SHARE on all the contributories of the said company who are settled in Class A on the List of Contributories of the said company. All persons interested therein are entitled to attend at the time and place to offer objections to such call. WILLIAM MICHELL, Registrar.

Dated Registrar's Office, Truro, 26th January, 1869.

## GRESLEY WOOD AND SWADLINCOTE COLLIERY COMPANY (LIMITED). IN LIQUIDATION.

**MESSRS. FULLER, HORSEY, SON, AND CO.** are instructed by the Official Liquidator to SELL, BY AUCTION, on Thursday, the 4th of February, 1869, at Twelve o'clock precisely, on the premises, GRESLEY WOOD COLLIERY, near BUKTON, DERBYSHIRE, the ROLLING STOCK AND LOOSE MATERIALS of the COLLIERY, including TWENTY-EIGHT 7 ton COAL WAGONS, ONE HUNDRED TRAM WAGONS, THIRTY TONS nearly new RAILS, 4 tons new bar iron, 4 tons chain, 5 tons useful castings, spare pumping gear, head stock pulley, 15 inch centre back geared lathe, smith's tools, anvils, double purchase crab, pair of 20 ton wrought iron blocks, stock of timber, about 10,000 new bricks, miners' safety lamps, iron and hemp ropes, shaft cutting machine, leather bands, three wrought iron safes, and numerous other effects.

May be viewed the day preceding the sale, and catalogues had of H. CHATFIELD, Esq., Official Liquidator, Gresham-buildings, Basinghall-street; of Messrs. ASHURST, MORRIS, and Co., Solicitors, 6 Old Jewry, E.C.; at the principal hotels in Derby, Burton, and Leicester; on the premises; and of Messrs. FULLER, HORSEY, SON, and Co., 11, Billiter-square, London, E.C.

PRELIMINARY ADVERTISEMENT.

VALUABLE LEASEHOLD COLLIERIES, ABERDARE, GLAMORGANSHIRE.

**MESSRS. FULLER, HORSEY, SON, AND CO.** are instructed to SELL, BY AUCTION, at the Mart, London, early in March, the valuable LEASEHOLD COLLIERIES and other MINERAL PROPERTIES of the ABERDARE MERTHYR STEAM COAL COMPANY (LIMITED),

Comprising numerous SEAMS or VEINS of COAL of the thickness, in the aggregate, of 32 feet 7 inches, together with IRONSTONE and FIRE-CLAY, extending under a tract of land of about 624 acres in extent, situate in the parish of Aberdare, for a term of 21 years from 29th September then last, at a royalty rent of 1-15th comprising about 16,500 acres, and extends from east to west about 3 1/2 miles, and is bounded on the north by the Aghurgh River, on the south by the Arlow coast, on the east by the Arlow River, and on the west by the border line of the county of Wexford.

The coal is the well-known steam coal of the Aberdare district, including the Upper Four feet Seam, and has been on the Government List, and is also largely used by the Messageries Impériales of France.

The collieries have been opened under careful supervision of eminent practical men, and the whole of the plant and appliances are of the best order. The minerals are won by levels, one of which cuts most of the seams of coal, the other works the Driver Vein and Upper Four feet; the roofs are good, the workings free from gas, and naturally drained. The present output is about 300 tons daily, but it has been as large as 500 tons daily, when the demand existed.

More detailed advertisements, with plans, sections of the minerals, and descriptive particulars, will shortly appear, and information in the meantime may be had of Messrs. MINET and SMITH, Solicitors, 3, New Broad-street, London, E.C.; and of Messrs. FULLER, HORSEY, SON, and Co., 11, Billiter-square, London, E.C.

## IMPORTANT MINING PROPERTY, WITH BUILDING AND MACHINERY IN IRELAND.

**THE CARYSPOT MINING COMPANY (LIMITED), IN LIQUIDATION.** **MESSRS. EDWIN FOX AND BOUSFIELD WILL SELL,** BY AUCTION, at the Mart, Tokenhouse-yard, Bank of England, on Wednesday, March 3, at One o'clock precisely,

THE CARYSPOT COPPER, SULPHUR, IRON, LEAD, AND SILVER-LEAD ORE MINES.

Situate in the county of WICKLOW, in IRELAND, near the towns of Arklow, Oyoca, and Newburgh, with the Dublin, Wicklow, and Wexford and Shillingh Branch Railways passing through the lands; together with the agents' houses and workshops, pitman's house, lead house, powder house, stabling, &c., capital MACHINERY, including WATER WHEEL, 25 ft., 4 ft. breast pumps, drawing gear, ore crusher, dressing floors, sluice pit, small water wheel, steam engine and engine house, shaft timbering, and the entire PLANT necessary for continuing the working of the mines—all in good repair.

The sett (which is held under lease, dated 6th February, 1858, from the Earl of Aberdare, for a term of 21 years from 29th September then last, at a royalty rent of 1-15th) comprises about 16,500 acres, and extends from east to west about 3 1/2 miles, and is bounded on the north by the Aghurgh River, on the south by the Arlow coast, on the east by the Arlow River, and on the west by the border line of the county of Wexford.

The following shafts have been sunk in these mines:—Ballintemple Lead Mine, 56 fathoms, and 6 levels; Ballinvalley Sulphur Mine, 28 fathoms; Ballincollogue, 25 fathoms; Moneyteague, 25 fathoms; Ballycogue (two shafts), 8 and 24 fms.; Coolahullin, 11 fathoms; Arklow (two shafts), 10 and 12 fathoms, and numerous smaller trials.

From these the following ores have been raised:—Gold-bearing quartz, silver, lead, copper, sulphur, and iron; also, amber and china-clay, and slates, and upwards of 270 tons of lead ore; and a large quantity of the gold and other ores have been sold by the company. The buildings are in good repair, and the machinery in working order. The buyer can proceed at once with the working, which is at present carried on by the liquidators.

Printed particulars, now ready, may be had of Messrs. D. and F. FITZGERALD, solicitors for the liquidators, 20, St. Andrew-street, Dublin; WILLIAM G. CRAIG, Esq., Liquidator, Trinity Chambers, Dublin; Messrs. ROBERTSON and FORD, 40, Chancery-lane, London; or to Messrs. EDWIN FOX and BOUSFIELD, 24, Gresham-street, Bank, E.C., corner of Coleman-street, London.

## EAST PANT DU AND COLOMENDY MINES, MOLD.

SALE OF STEAM ENGINE AND BOILER, MINING MATERIALS, ETC.

**MR. THOMAS DEAN** has been favoured with instructions from the Official Liquidator to SELL, BY AUCTION, on Friday, the 5th of February next, at Twelve o'clock at noon, on the Colomendy portion of the Mine, about 2 1/2 miles from Mold, on the Ruthin Road,

THE WHOLE OF THE PLANT AND MACHINERY,

Consisting of ONE 18 in. cylinder ROTARY ENGINE, with pumping gear attached; wrought iron crank, 6 in. square, fly wheel, 12 ft. diameter; 2 cog wheels, and shaft for drawing gear, if required; 7 segments of fly wheel, shaft bob, balance bob, pedestals, brasses, and bearings; tubular BOILER, about 7 tons, with appendages, steam and feed pipes, 5 in. steam gauge, damper and chain; shear legs and 2 sheaves; 8 arm oak capstan, span beam, legs, and stays; capstan rope, 40 fms. 7 in. plunger and 6 in. wood rods, 15 fms. 6 in. drawing lift buckets and iron bucket rods in the shaft, 1 horse whim, 2 good iron kiddles, poppet heads and pulleys, 1 3/4 in. chain (about 140 yards long), 280 yards of bridge rails and wagon at bottom of level, 13 bars new iron, 13 new bucket joints, chests, 7 cast steel drills, 25 yards new 3 in. tackle rope, 10 yards chain, 9 new picks and steel point shovels, bar of drilled steel, tub, scale stand, fir poles (4 ft. 6 in.), iron pulley, boards, bricks, breaking plates, cistern, and anvil.

One hundred and thirty-five yards of 3/4 in. chain and whim at East Pant Du. The whole may be viewed any day prior to the sale, and further particulars obtained from Mr. GEORGE HASWELL, 89, Foregate-street, Chester; from the auctioneer, Mold; or from Messrs. LACE, BANNER, GILL, NEWTON, and BUSHBY, solicitors, Liverpool.

LEASEHOLD TIN PLATE AND IRON WORKS, CALLED

LLANELLY FORGE.

**MR. SYDNEY TUDOR EVANS** is instructed to OFFER FOR SALE, BY PRIVATE CONTRACT, with the approbation of His Honor the Vice-Chancellor, Sir Richard Malins, the LEASEHOLD TIN PLATE AND IRON WORKS known by the name of

THE LLANELLY FORGE,

Situate at LLANELLY, near ABERGAVENNY, standing on 44 acres of land or thereabouts, late the property of John Miles, deceased.

The WORKS comprise STEAM ENGINES, rolling mills, blast and puddling furnaces, water wheels, large forge hammer, firebrick mill, offices, &c., and are held under lease for the residue of term of 21 years from 24th June, 1863, at rents amounting to £290 a-year.

The works are ready for immediate occupation, and may be viewed on application to Mr. SYDNEY TUDOR EVANS, auctioneer; or to Mr. THOMAS MORGAN ILLWELLIN, solicitor, Newport, Monmouthshire; or to Messrs. BARNARD, THOMAS, and Co., Bristol, of whom further particulars as to the terms of sale may be obtained.

Dated this 21st day of January, 1869.

J. A. BUCKLEY, Chief Clerk.

## MINING PLANT FOR SALE.

**TO BE SOLD, BY PRIVATE CONTRACT, the whole or portions** of the valuable PLANT and MACHINERY in and upon the

PENPOMPREN &amp; PENYBANK UNITED SILVER-LEAD MINES,

TALYBONT, near ABERYSTWYTH, CARDIGANSHIRE,

Comprising TWO WATER WHEELS, nearly new (with iron segments), 40 feet diameter by 4 feet breast, and 12 feet diameter by 4 1/2 feet breast respectively; upwards of 750 feet of LAUNDERS to ditto; CRUSHER, with 30 inch diameter rollers; double reversing improved WINDING MACHINE; 600 to 700 fathoms of WIRE ROPE, with pulleys and sheaves to support ditto; 11 fathoms 9 inch PUMPS, 15 fathoms 6 inch ditto, 20 fathoms 3 inch ditto; 30 to 100 fathoms of iron PUMP RODS; electrical signalling apparatus, with 1500 yards of conducting wires; 400 to 500 yards of double-iron bridge tram RAILS; patent atmospheric American ORE STAMPS, with speed gearing for ditto; one ZENNER'S rotating BUDDLE, 18 feet diameter; two circular BUDDLES, with 9 ft. wheel to drive ditto; one OFFICE (of wood) 12 by 10 feet square; one ore bin, scales and weights, wooden sheds; six JIGGING HUTCHES; flat buddle, trunks, strakes, dolly tubs, catch pits, sieves, barrows, tools and utensils on dressing floors, kiddles, tram wagons, balance and pendulum bobs, angle pulleys, crab winch, lifting screw, chains, sundry lots of timber and ironwork, ladders and dividing boards in shafts, one horse and cart and two sets of harness, patent straw cutter and stable utensils, assayer's furnace and apparatus.

Together with all the other sundry MATERIALS and APPLIANCES necessary to the working of an extensive LEAD MINE, the whole plant being in good order, of recent construction, and of the most modern and approved workmanship.

Apply to Mr. EDWARD GLEDHILL, manager, at the mines, who will furnish all requisite information and particulars.

## A VALUABLE SILVER-LEAD MINE FOR SALE.

**TO BE SOLD, BY PRIVATE CONTRACT, a VALUABLE** SILVER-LEAD MINE, situated in one of the best districts in CORNWALL. The mine is now in working, and can be inspected. Considerable quantities of rich ore have already been sold from the mine, on which there is an excellent 82 in. cylinder ENGINE, and all necessary plant in capital condition for immediately carrying on the mine, at a small cost.

Satisfactory reasons can be given why this sale is offered. If wished, some of the present proprietors will join in the purchase, or the whole mine will be sold, with the deeds, &c., which have a long term unexpired. For particulars, apply to Mr. RICHARD CLOGG, Liskeard, January 27, 1869.

NORTH WALES—QUEEN'S FERRY, FLINT.

CLOSE TO THE RAILWAY.

**TO BE SOLD OR LET, DESIRABLE FREEHOLD** MANUFACTURING PREMISES, with ENGINE-POWER and LAND.—

A plot of about one acre, with substantial factories, engine-house chimneys, stable, outbuildings, and sheds, suitable for any manufacturing purpose. ENGINE of most recent construction, and BOILER nearly new.

For further particulars, apply to JOHN TEMPLE, 32, Redcross-street, Liverpool.

## PEN-Y-CERIG SLATE QUARRY.

**TO BE LET, ON LEASE, the PEN-Y-CERIG SLATE** QUARRY, situate about three-quarters of a mile south of HARLECH, one and a half miles from the shipping port and railway station of Pen-y-sarn, and within a few yards of the railway itself.

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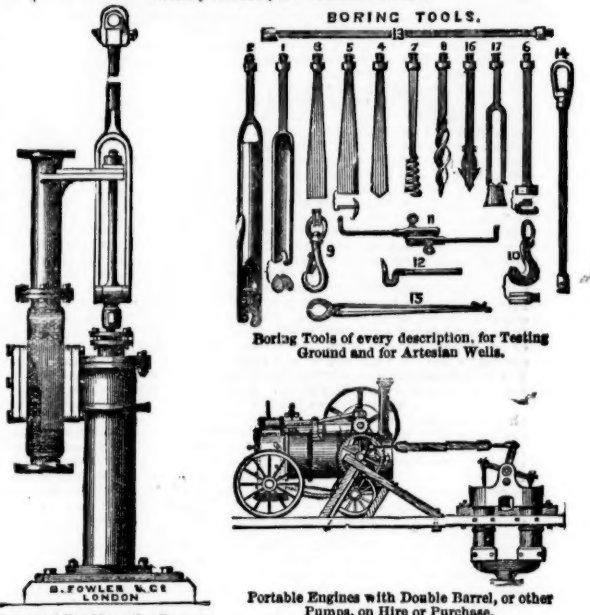
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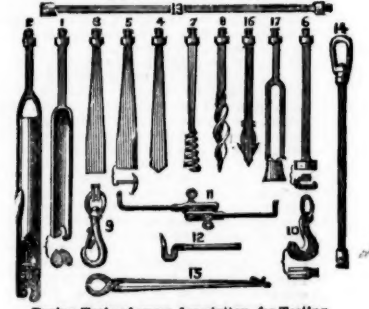
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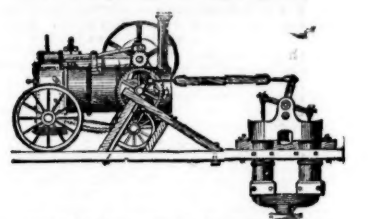
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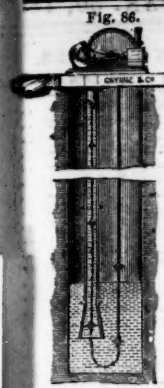
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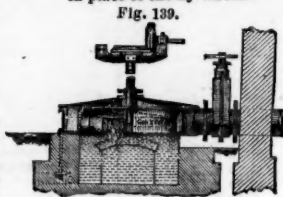
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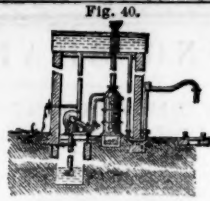
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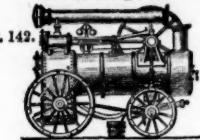
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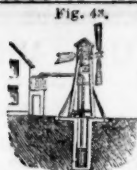
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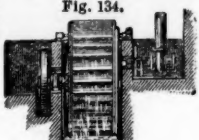
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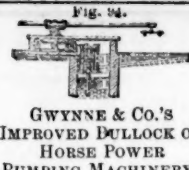
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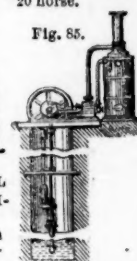
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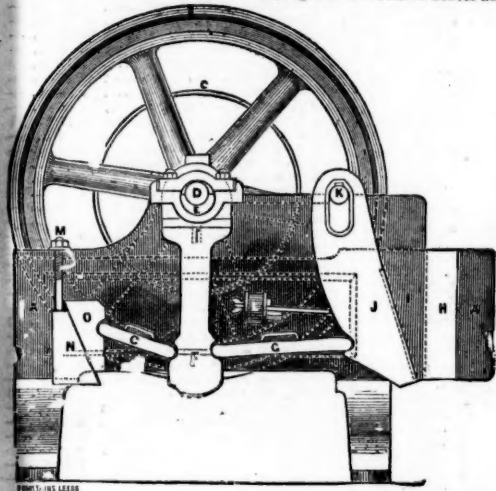
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*The Parys Mines Company, Parys Mines, near Bangor, June 6.*—We have had one of your stone breakers in use during the last twelve months, and Captain Moreom reports most favourably as to its capabilities of crushing the materials to the required size, and its great economy in doing away with manual labour. For the Parys Mining Company, JAMES WILLIAMS.

*H. R. Marsden, Esq., Ecton Emery Works, Manchester.*—We have used Blake's patent stone breaker made by you, for the last 12 months, crushing emery, &c., and it has given every satisfaction. Some time after starting the machine a piece of the moveable jaw about 30 lbs. weight, chilled cast-iron, broke off, and was crushed in the jaws of the machine to the size fixed for crushing the emery. For the Parys Mining Company, H. R. Marsden, Esq. THOS. GOLDSWORTHY & SONS.

*Alkali Works, near Wednesbury.*—I at first thought the outlay too much for so simple an article, but now think it money well spent. WILLIAM HUNT.

*Welsh Gold Mining Company, Dolgelly.*—The stone breaker does its work admirably, crushing the hardest stones and quartz. WM. DANIEL.

*Our 15 by 7 in. machine has broken 4 tons of hard whinstone in 20 minutes for fine road metal, free from dust.* Messrs. ORD and MADDISON, Stone and Lime Merchants, Darlington.

*Kirkless Hall, near Wigan.*—Each of my machines breaks from 100 to 120 tons of limestone or ore per day (10 hours), at a saving of 4d. per ton. JOHN LANCASTER.

*Ovoca, Ireland.*—My crusher does its work most satisfactorily. It will break 10 tons of the hardest copper ore stone per hour. WM. G. ROBERTS.

*General Fremont's Mines, California.*—The 15 by 7 in. machine effects a saving of the labour of about 30 men, or \$75 per day. The high estimation in which we hold your invention is shown by the fact that Mr. Park has just ordered a third machine for this estate. SILAS WILLIAMS.

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**CAUTION!**

**BLAKE'S PATENT STONE BREAKER,** In Chancery.

**BLAKE v. ARCHER, NOVEMBER 12, 1867.**

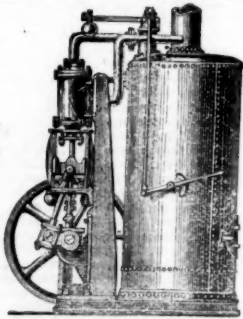
His Honour the Vice-Chancellor WOOD having found a VERDICT in FAVOUR of the PLAINTIFFS in the above Cause, establishing the VALIDITY of BLAKE'S PATENT, and made a DECREE for an INJUNCTION to RESTRAIN the DEFENDANTS, Messrs. THOMAS ARCHER and SON, of Dunston Engine-Works, near Gateshead-on-Tyne, from INFRINGING such PATENT, and ordering them to pay to the Plaintiffs the costs of the Suit.

ALL PERSONS are hereby CAUTIONED against MANUFACTURING, SELLING, or USING any STONE BREAKERS similar to BLAKE'S, which have not been manufactured by the Plaintiffs. Application will forthwith be made to the Court of Chancery for INJUNCTIONS AGAINST ALL PERSONS who may be found INFRINGING BLAKE'S PATENT after this notice.

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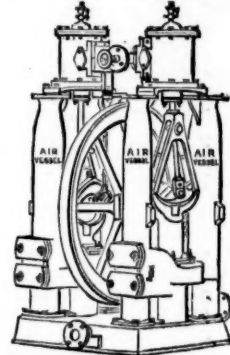
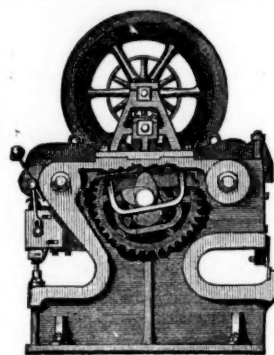
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BRITISH DIVIDEND MINES.		Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
Shares.	Mines.						
1500	Alderley Edge, c. Cheshire	10 0 0	—	—	10 1 8	0 10 0	July 1868
200	Botallack, c. St. Just	91 5 0	—	—	491 5 0	2 10 0	Jan. 1868
4000	Brookwood, c. Buckfastleigh	1 11 0	—	—	0 12 6	0 2 6	Aug. 1868
1000	Brooklyn, c. Cardigan	12 0 0	17	—	10 17 0	0 10 0	Aug. 1868
5004	Bwch Consols, c. Cardigan	4 0 0	—	—	0 5 0	0 5 0	June 1868
4400	Cashwell, c. Cumberland	2 10 0	—	—	0 3 0	0 1 6	Aug. 1868
916	Cargoll, s. Newlyn	15 5 7	—	—	15 15 0	0 10 0	Jan. 1869
1280	Chanticleer, c. —	0 7 8	—	—	0 1 0	0 0 6	Nov. 1868
2450	Cook's Kitchen, c. Illogan	19 14 9	14	12 13	1 17 0	0 5 0	Jan. 1869
509	Creebrawse and Penkell, c. —	—	—	—	2 5 0	1 5 0	April 1868
667	Cwm Erwin, c. Cardiganshire	7 10 0	—	—	29 13 0	0 10 0	Jan. 1869
128	Cwmystwith, c. Cardiganshire	60 0 0	—	—	383 10 0	2 0 0	Aug. 1868
280	Darwen Mines, c. Lancashire	300 0 0	—	—	177 0 0	2 10 0	July 1868
1024	Devon Consols, c. Tavistock	1 0 0	820	—	1124 0 0	4 0 0	Jan. 1869
656	Ding Dong, c. Gwilt	49 14 6	—	—	0 10 0	0 10 0	Sept. 1867
385	Dolcoath, c. i. Camborne	128 17 6	470	470 490	864 10 0	7 0 0	Dec. 1868
6144	East Caradon, c. St. Cleer	2 14 6	93 1/2	93 1/2	14 11 6	0 2 0	July 1867
300	East Darren, c. Cardiganshire	32 0 0	—	—	162 10 0	2 0 0	Nov. 1868
128	East Pool, c. Pool, Illogan	24 5 0	375	—	452 10 0	5 0 0	Jan. 1869
1906	East Wheal Lovell, c. Wendron	3 9 0	9 1/2	6 1/2	4 11 6	0 10 0	Jan. 1869
2804	Foxdale, i. Isle of Man	25 0 0	—	—	72 10 0	0 10 0	Jan. 1869
5000	Frank Mills, c. Chertow	3 18 6	4	3 1/4	3 5 6	0 5 0	Feb. 1868
3550	Gawton, c. i. Isle of Man	3 19 6	—	—	9 15 0	0 10 0	Dec. 1868
16000	Great Laxey, c. Chertow	4 0 0	19 1/2	19 1/2	13 16 0	0 10 0	Dec. 1868
1000	Great Wheal Vor, c. i. Helston	40 0 0	11 1/2	—	13 16 0	0 10 0	Dec. 1868
1624	Herodfoot, i. near Liskeard	8 10 0	45	43 45	48 0 0	1 10 0	Oct. 1868
165	Levant, c. i. St. Just	10 8 1	—	—	1099 0 0	4 0 0	Jan. 1869
400	Lieburne, i. Cardiganshire	18 15 0	—	—	510 10 0	1 10 0	Nov. 1868
3000	Maes-y-Safn, i. Flint	20 0 0	—	—	4 0 0	0 5 0	Oct. 1868
9000	Marke Valley, c. Cardigan	4 10 6	9 1/2	9 1/2	4 19 0	0 5 0	Jan. 1869
3000	Minera Boundary, c. Wrexham	1 0 0	—	—	0 13 0	0 3 0	Mar. 1868
18000	Minera Mining Co., Wrexham	25 0 0	175	—	243 13 6	4 0 0	Nov. 1868
20000	Mining Co. of Ireland, c. i. cl.	7 0 0	11 1/2	—	9 0 0	0 2 0	July 1868
40000	Mynydd Iron Ore	3 0 0	—	—	0 8 6	0 2 0	Mar. 1868
200	Parys Mines, c. Anglesey	50 0 0	—	—	162 10 0	2 10 0	Aug. 1868
9000	Pennalls, c. St. Agnes	3 0 0	5 1/2	5 1/2	0 2 6	0 2 6	Jan. 1869
12800	Prince of Wales, c. Calstock	0 12 6	25s.	1 1/2	0 8 6	0 1 0	Nov. 1868
1120	Providence, c. Uny Lelant	10 6 7	37	34 36	86 12 6	1 0 0	Dec. 1868
512	South Caradon, c. St. Cleer	1 5 0	380	340 350	607 10 0	5 0 0	Jan. 1869
6000	South Darren, c. Cardigan	3 6 6	—	—	0 13 0	0 1 6	Aug. 1868
937	South Wh. Crofty, c. Illogan	24 10 0	14	13 14	1 0 0	0 10 0	Sept. 1868
486	So. Wh. Crofty, c. Illogan	18 19 6	15	13 15	374 13 6	1 0 0	Mar. 1868
608	Summer Hill, i. Mold	3 18 6	—	—	2 5 6	0 5 0	Feb. 1868
6000	Tincroft, c. i. Pool, Illogan	9 0 0	17 1/2	16 1/2	20 1 0	0 5 0	Nov. 1868
2000	Trumpet Cons., c. Helston	11 10 0	—	—	0 8 0	0 10 0	Jan. 1869
3000	W. Chiverton, i. Perranzabuloe	10 0 0	60	54 56	31 7 6	2 0 0	Nov. 1868
5000	West Godolphin, c. Breage	0 1 0	—	—	0 2 0	0 2 0	Dec. 1867
400	W. Wheal Seton, c. Camborne	47 0 0	215	205 215	616 0 0	6 0 0	Dec. 1868
512	Wheal Bassett, c. Illogan	5 2 6	67	—	632 10 0	1 0 0	June 1868
1024	Wheal Friendship, c. Tavistock	20 0 0	—	—	300 10 0	0 10 0	Nov. 1868
512	Wheal Jane, s. i. Kea	10 15 0	45	42 1/2	2 10 0	2 0 0	Nov. 1868
4299	Wheal Killy, c. St. Agnes	4 4 6	—	—	5 11 0	0 2 0	Nov. 1868
1024	Wheal Mary Ann, i. Menheniot	8 0 0	21 1/2	22 1/2	66 17 6	0 17 6	Dec. 1868
80	Wheal Owles, c. St. Just	70 0 0	—	—	350 13 0	7 10 0	Feb. 1868
396	Wheal Seton, c. i. Camborne	58 10 0	87 1/2	80 85	254 15 0	2 0 0	Feb. 1868
3000	Whitewell Lead, Clitheroe	0 5 0	—	—	1 0 0	0 10 0	Dec. 1867
17000	Wicklow, c. i. Wicklow	2 10 0	11 1/2	—	49 1 0	0 5 0	Oct. 1868

FOREIGN DIVIDEND MINES.		Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
Shares.	Mines.						
35000	Alamillos, i. Spain	2 0 0	1 1/2	—	0 4 6	0 2 0	Sept. 1868
20000	Australian, c. South Australia	7 7 6	—	—	0 1 6	0 0 6	Aug. 1868
15000	Cape Copper Mining	7 0 0	14	—	3 17 6	0 15 0	Nov. 1868
30000	Central American Association	1 10 0	—	—	1 0 3	0 3 6	Nov. 1868
7162	Don Pedro North del Rey	0 14 0	4 1/2	4 1/2	—	—	—
70000	English and Australian, c. —	2 10 0	—	—	—	—	—
28000	Fortuna, i. Spain	2 0 0	2	1 1/2	1 11 10	0 1 6	Sept. 1868
20000	Gen. Mining Assoc., Nova Scotia	20 0 0	—	—	23 10 0	0 15 0	June 1867
10000	Gonessa, i. —	1 0 0	—	—	10 per cent.	—	—
60000	Gonessa Mining Co., Australia	1 0 0	—	—	0 1 10	0 6 0	Nov. 1868
15000	Linares, i. Spain	3 0 0	3	2 1/2	11 15 0	0 3 4	Sept. 1868
60000	Panulillo, c. Chile	3 0 0	1 1/2	1 1/2	10 per cent.	—	—
6000	Peel River Land and Mineral	100 0 0	—	—	5 6 2	0 19 7	Dec. 1868
10000	Pontebaud, c. i. France	20 0 0	—	—	1 6 0	0 1 6	Jan. 1869
100000	Port Phillip, c. Clunest	1 0 0	2	1 1/2	10 per cent.	—	—
120000	Scottish Australian Min. Co.	1 0 0	1	3/4	81 10 0	4 5 0	Dec. 1867
11000	St. John del Rey, Brazil	15 0 0	16 1/2	15 1/2	7 1/2 per cent.	—	—
4000	Swedish Sulphur	6 0 0	9	8 9	2 2 6	0 12 0	Nov. 1868
15000	Vancouver Coal Mining	6 0 0	9	8 9	0 9 7	0 0 7	July 1868
50000	Victoria (London) 25000 £1 pd., 25000 12s. 6d. pd.]	1 0 0	—	—	0 19 6	0 2 6	May 1868
40000	West Canada Mining Co.	1 0 0	—	—	—	—	—

NON-DIVIDEND FOREIGN MINES.		Paid.	Last Pr.	Bus. done.	Last Call.
Shares.	Mines.				
50000	Anglo-Argentine, s. Argentine Republic	1 0 0	—	1 1/4 1 3/4	Nov. 1866
00000	Anglo-Brazilian, g,†	0 10 0	—	3/8 1/2	Jan. 1866
12500	Anglo-Italian, g,†	0 10 0	—	—	Jan. 1866
20000	Australian United, g	1 0 0	—	—	Mar. 1866
2464	Burra Burra, c. South Australia†	5 0 0	—	—	—
20000	Capula, s. Mexico†	1 17 6	—	—	May 1868
30000	Chontales, g, s. Nicaragua†	5 0 0	—	1 3/4 1 1/2	Mar. 1868
12000	Cobre Copper Company, c. Cuba†	45 10 0	—	—	Jan. 1866
10000	Copla Mining Company, Chile†	16 10 0	—	—	—
10000	Copio Smelting, Chile†	10 0 0	—	—	April 1866
300	Copper Miners' Co. of South Australia* [150 £100 pd.]	150 75 pd.]	—	—	Nov. 1866
15000	El Chico Silver Mining and Reduction Company*	5 0 0	—	—	Nov. 1866
40000	Fortune Copper Mining Co. of Western Australia	2 0 0	—	—	Fully pd.
50000	Frontino and Bolivia, g, New Granada†	1 17 6	—	1/2 .8s. 10s.	May 1868
50000	General Brazilian*	0 2 0	—	.9s. 11s.	—
80000	Great Northern, c. South Australia†	1 11 6	—	—	Sept. 1869
50000	Javali, g, Nicaragua†	2 0 0	—	—	Jan. 1869
7927	Lusitania (Portugal)†	2 15 0	—	—	Dec. 1866
82640	Mariquita, g, s. New Granada	1 0 0	—	—	Feb. 1868
12500	Nerbudda Coal and Iron, India†	6 0 0	—	—	Dec. 1867
51000	New Quebrada, c. Venezuela†	4 4 0	—	—	—
15000	Otea, c. New Zealand*	2 0 0	—	—	Fully pd.
80000	Pestarena United, g, Italy†	2 17 6	—	1 3/8 1 1/4 1 1/2	May 1866
10178	Rhenish Consolidated, [6000 £5 pd., 4178 £2 10s. pd.]	—	—	1 3/8	June 1867
00000	Rosca Grande, c. Brazil†	0 14 0	—	—	—
10000	Sao Pedro del Monte, s. Mexico	4 0 0	—	—	Sept. 1866
10000	Sao Roque, l. Spain	5 0 0	—	—	Fully pd.
10000	San Vicente, Brazil†	1 0 0	—	1 3/8 1 1/2 1 1/2	Oct. 1868
00000	Taquaril, g, Brazil†	0 7 6	—	3/4 .13s. 15s.	Oct. 1868
43174	United Mexican, s. Mexico†	28 5 2	—	—	May 1868
00000	Val Antigua, g, Italy*	1 2 6	—	—	—
6000	Val Sansam, s. c. l. Italy†	8 0 0	—	—	Aug. 1868
00000	Victor Emanuel, c. Italy*	1 0 0	—	—	Fully pd.
20000	Washoe, g, Nevada†	5 0 0	—	—	Fully pd.
10000	Worthing, c. South Australia†	1 0 0	—	3/8	Fully pd.
75000	Yorke Peninsula, South Australia	1 0 0	—	3/8	Fully pd.
40000	Yudanamatana, c. South Australia†	3 0 0	—	2 1/4 2 2 1/2	Fully pd.